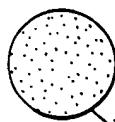




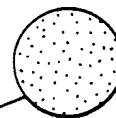
1/47

FIG. 1



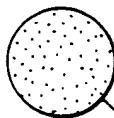
[SEQ. ID NO: 3]

X-C-C-T-T-G-A-G-A-T-T-C-C-C-T-C
5' 3'



G-G-A-A-C-T-C-T-A-A-A-G-G-G-A-G-X
3' 5'

[SEQ. ID NO: 4]



X-C-C-T-T-G-A-G-A-T-T-C-C-C-T-C
G-G-A-A-C-T-C-T-A-A-A-G-G-G-A-G-X

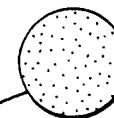


FIG. 2

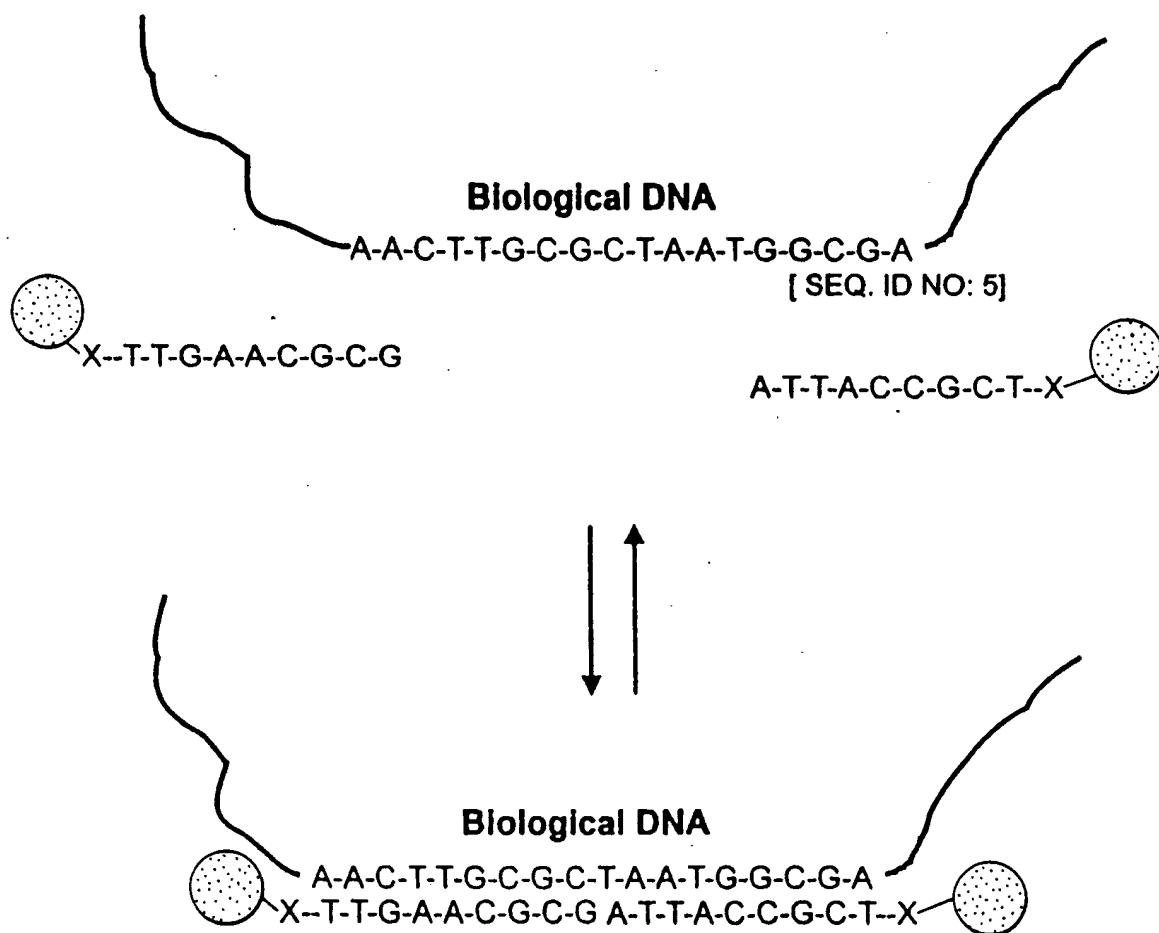


FIG. 3

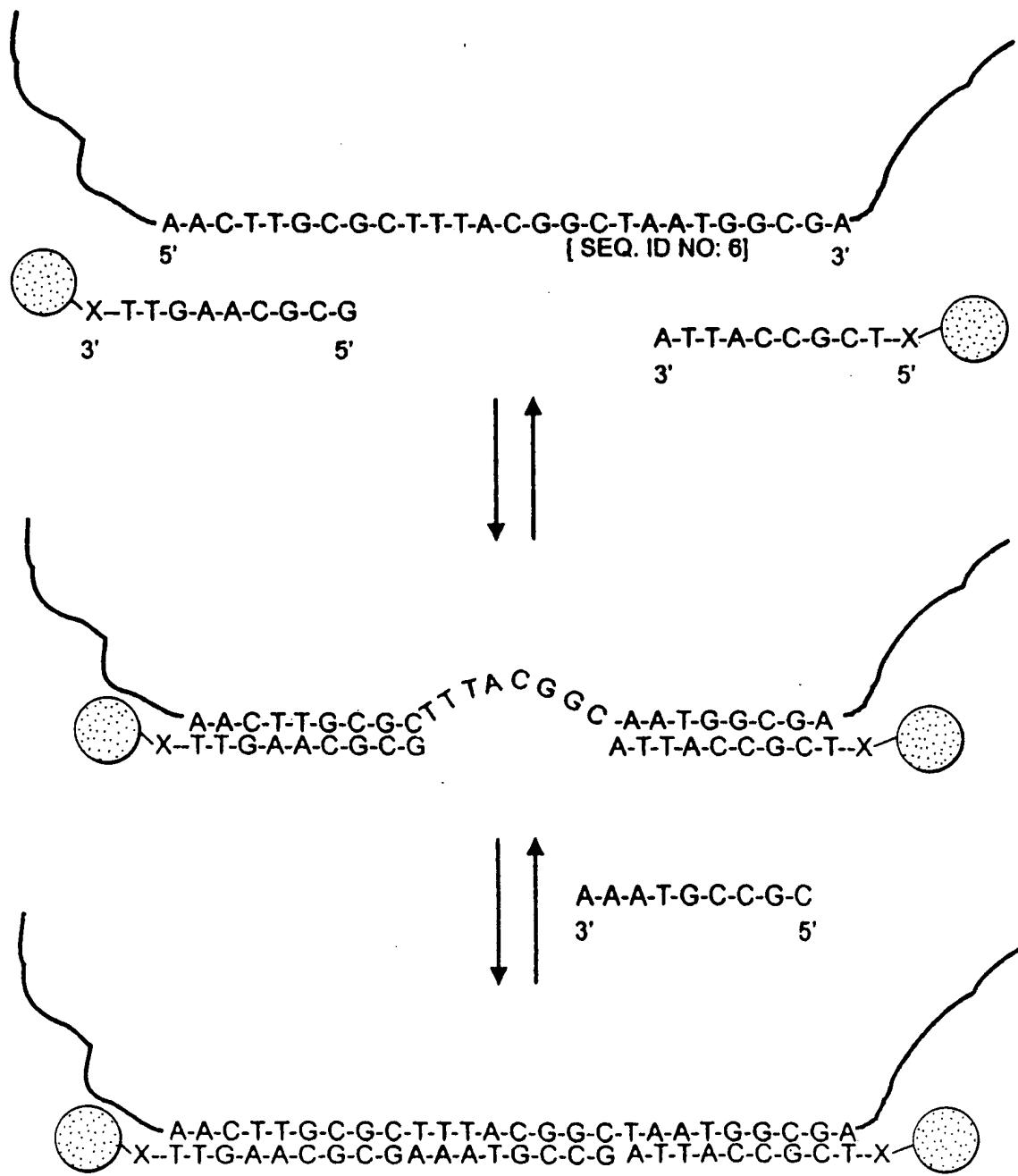


FIG. 4

Linking oligonucleotide

A-T-G-G-C-A-A-C-T-A-T-A-C-G-C-G-C-T-A-G
 A-T-A-T-G-C-G-C-G-A-T-C-T-C-A-G-C-A-A-A
 [SEQ. ID NO: 2] →
 [SEQ. ID NO: 1] →

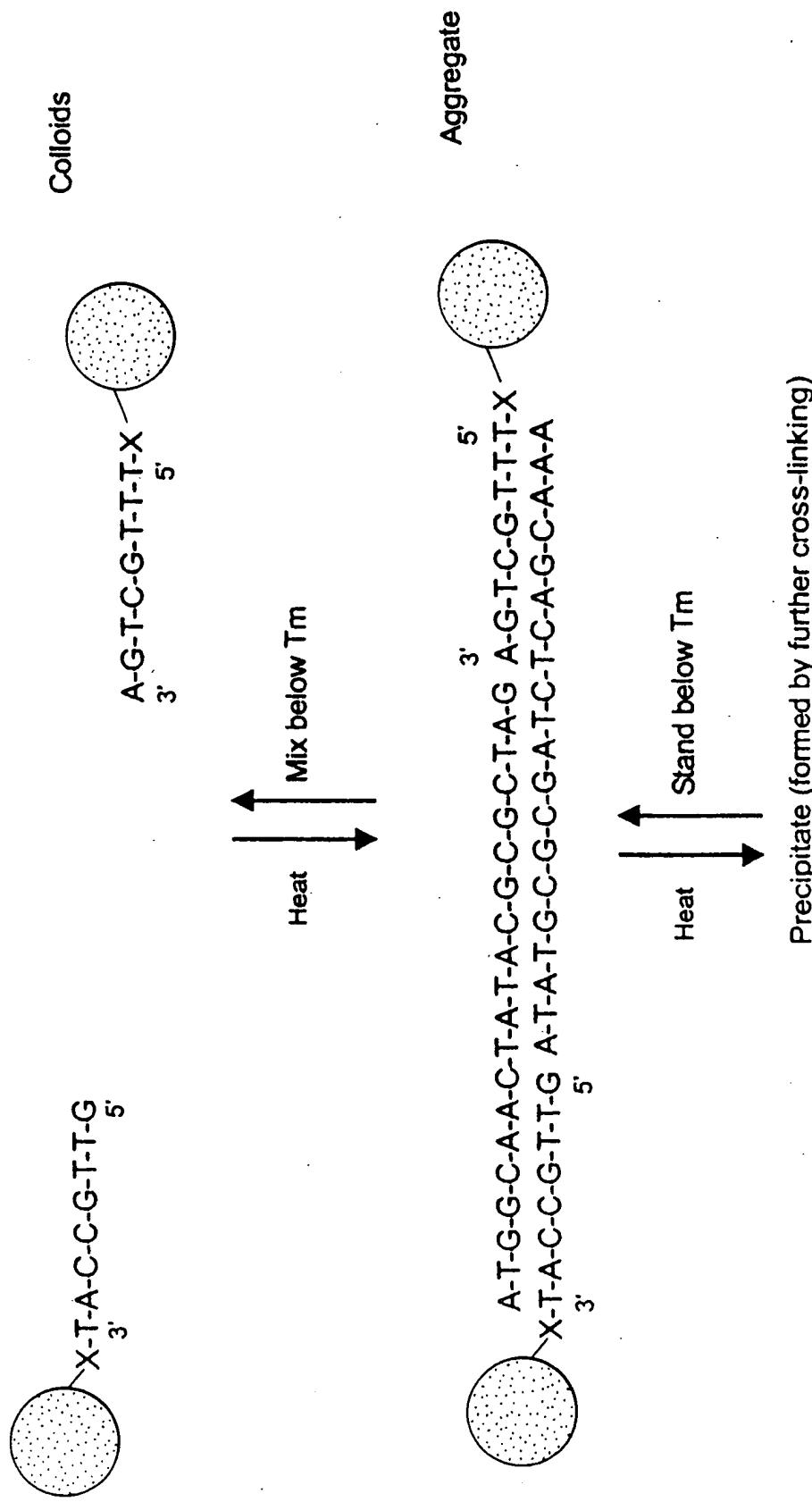


FIG. 5

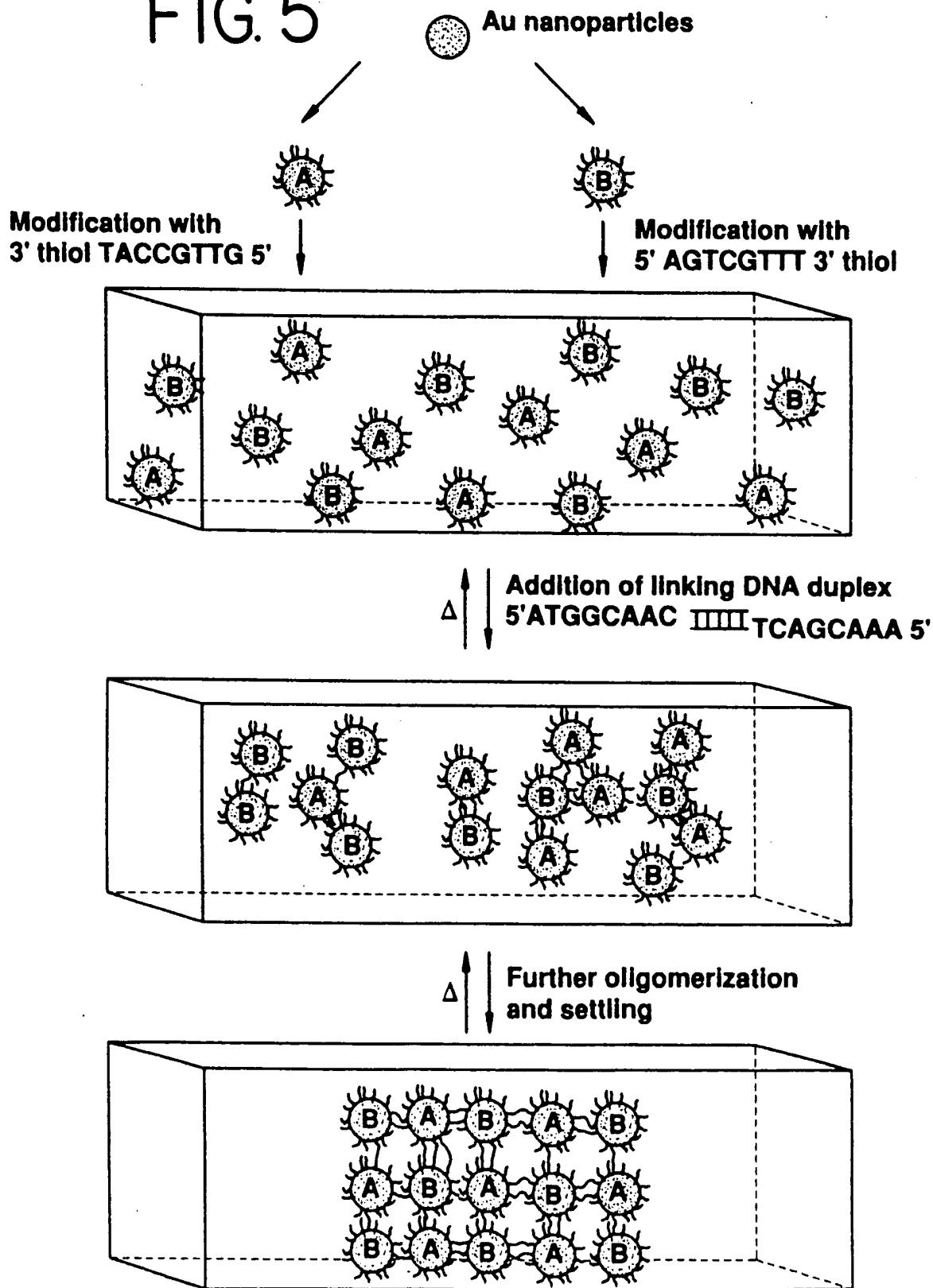


FIG. 6A FIG. 6B FIG. 6C



FIG. 7

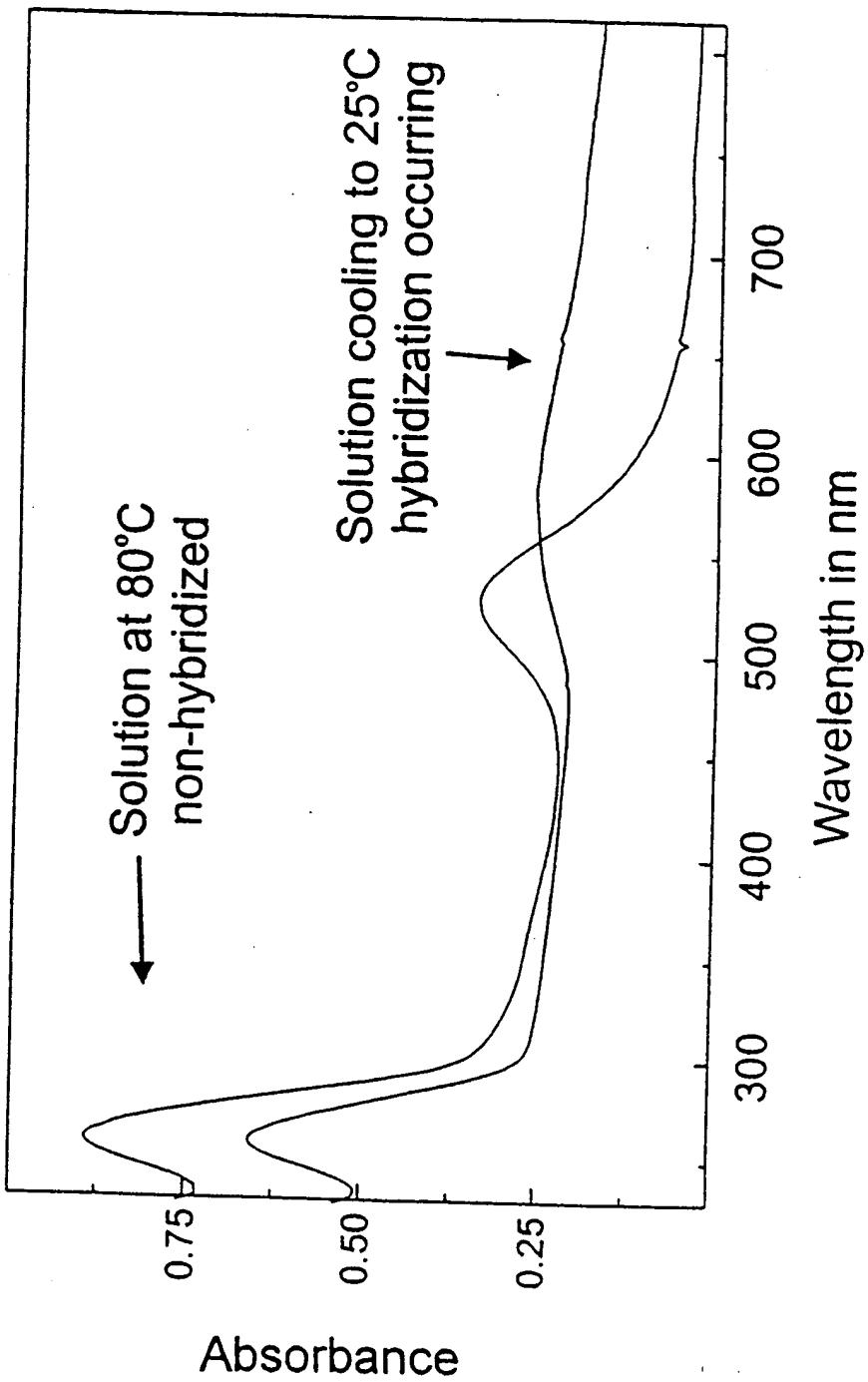


FIG. 8B

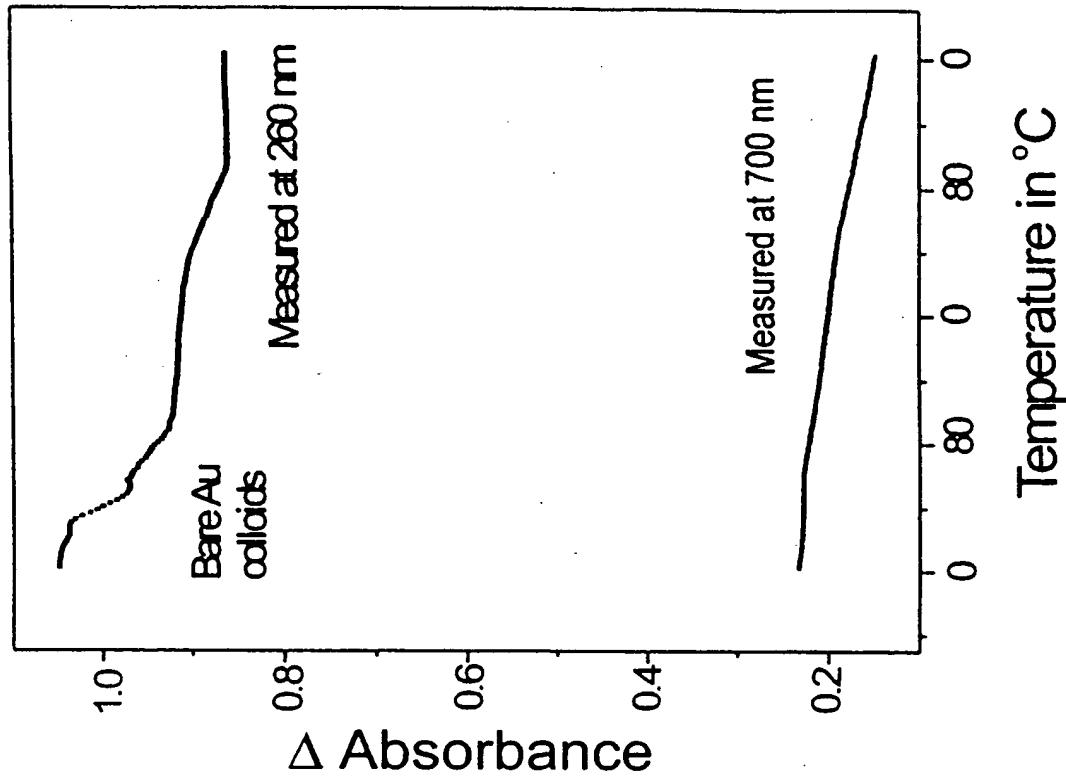


FIG. 8A

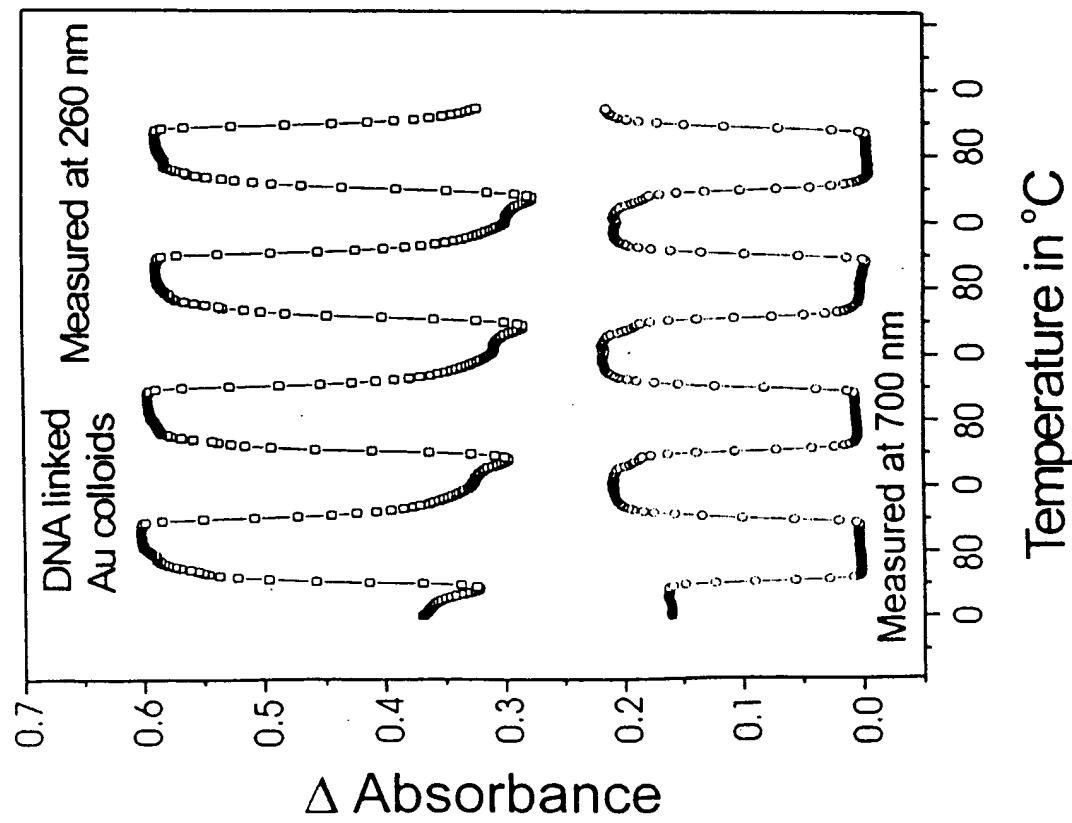


FIG. 9A

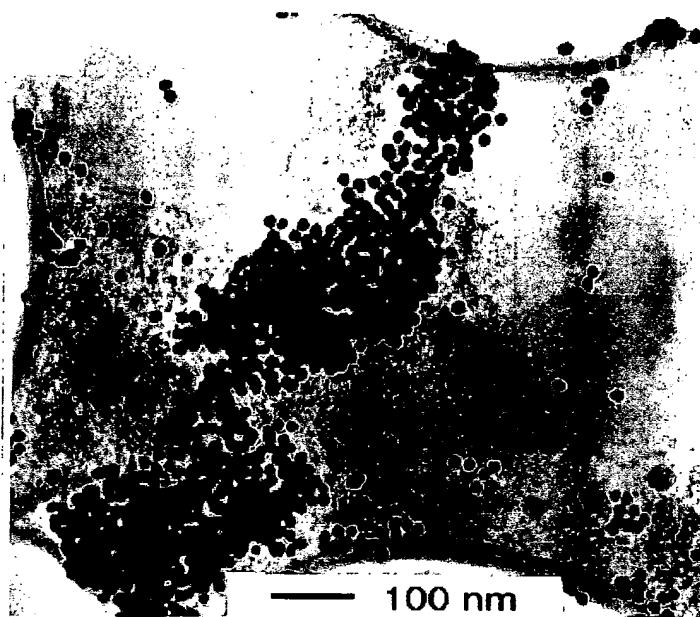


FIG. 9B



FIG. 10

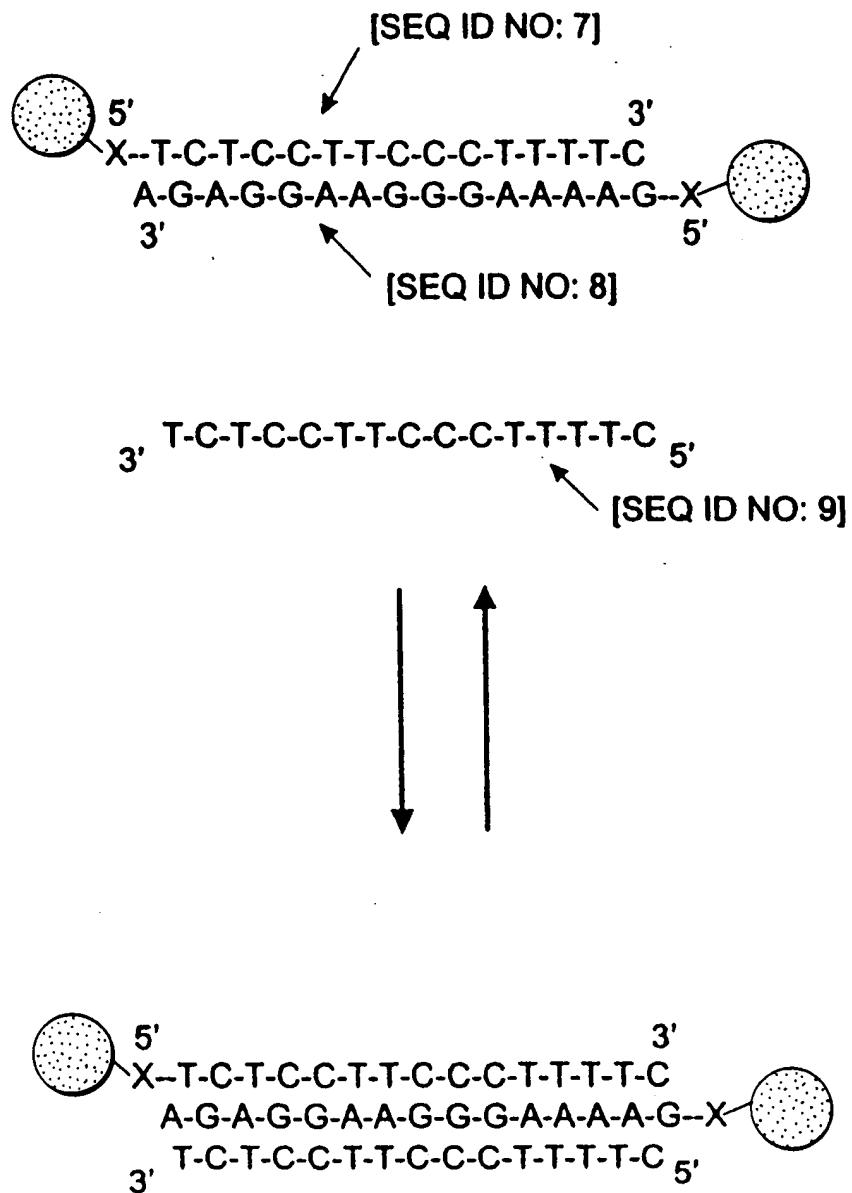


FIG. II

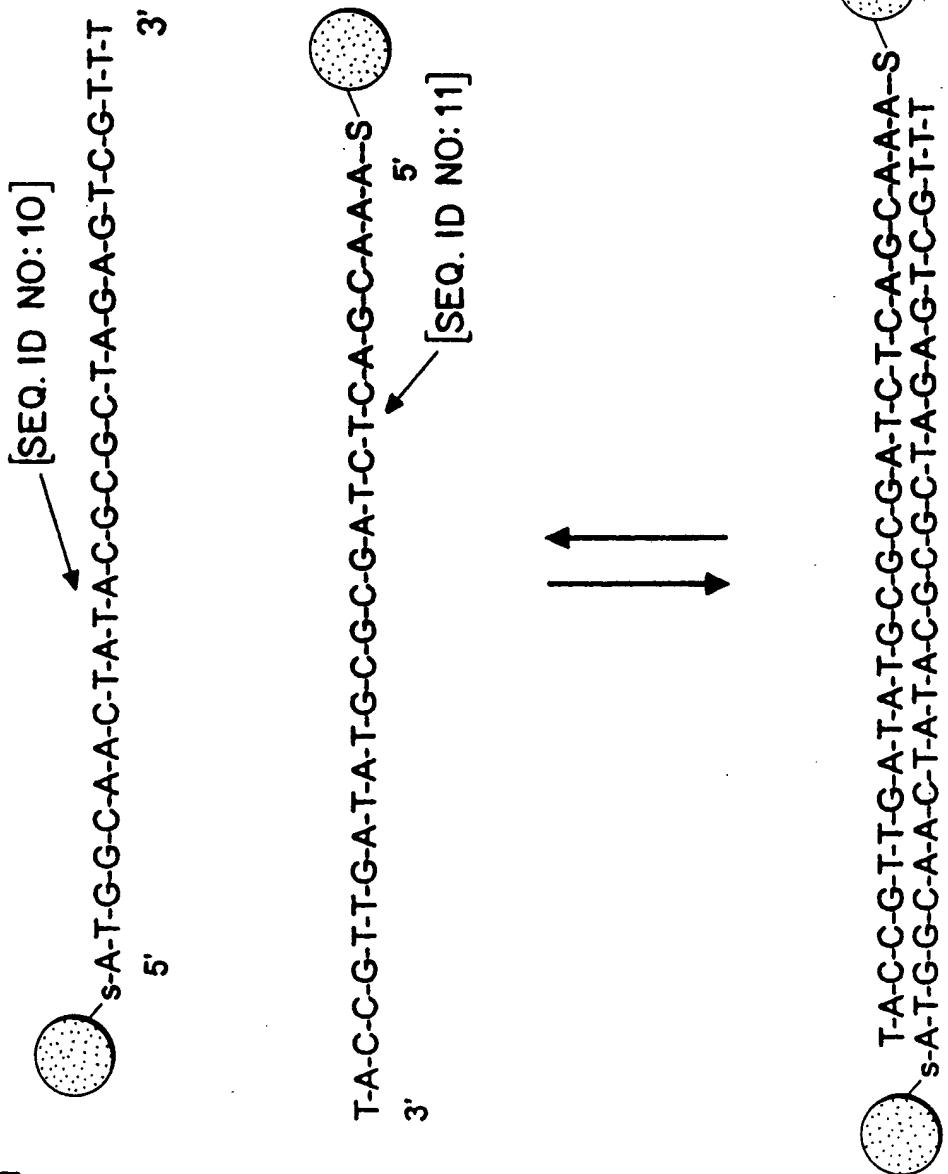


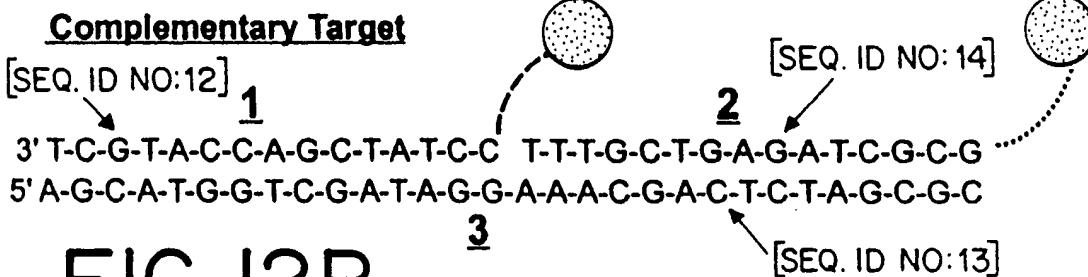
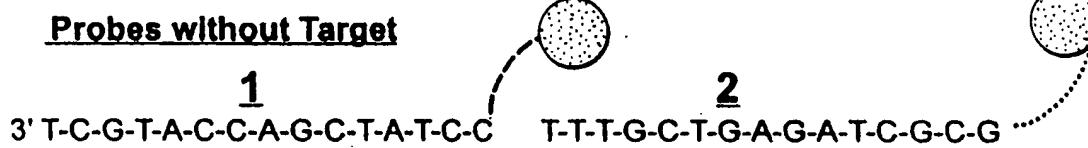
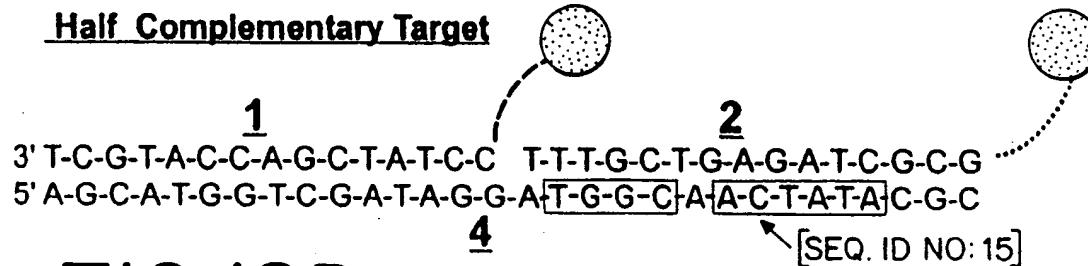
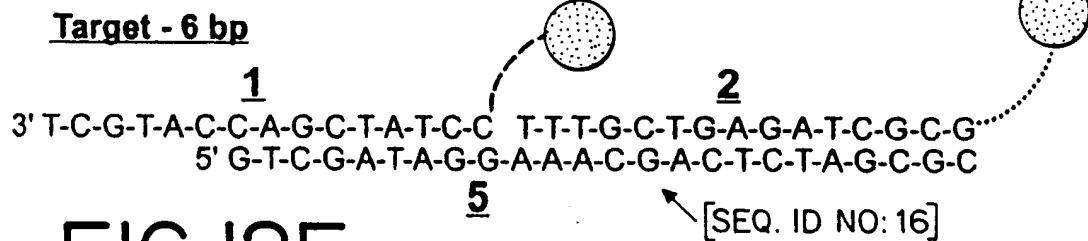
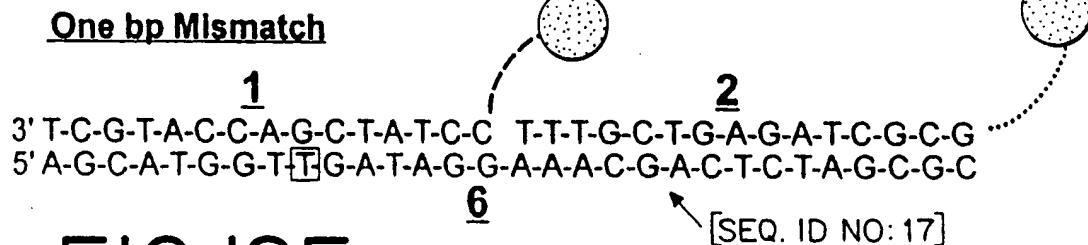
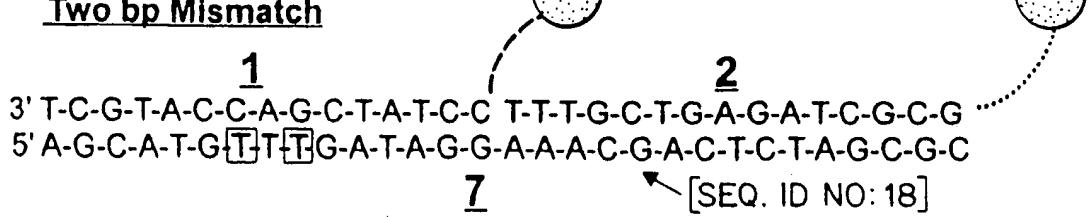
FIG. I2A**FIG. I2B****FIG. I2C****FIG. I2D****FIG. I2E****FIG. I2F**

FIG. 13A

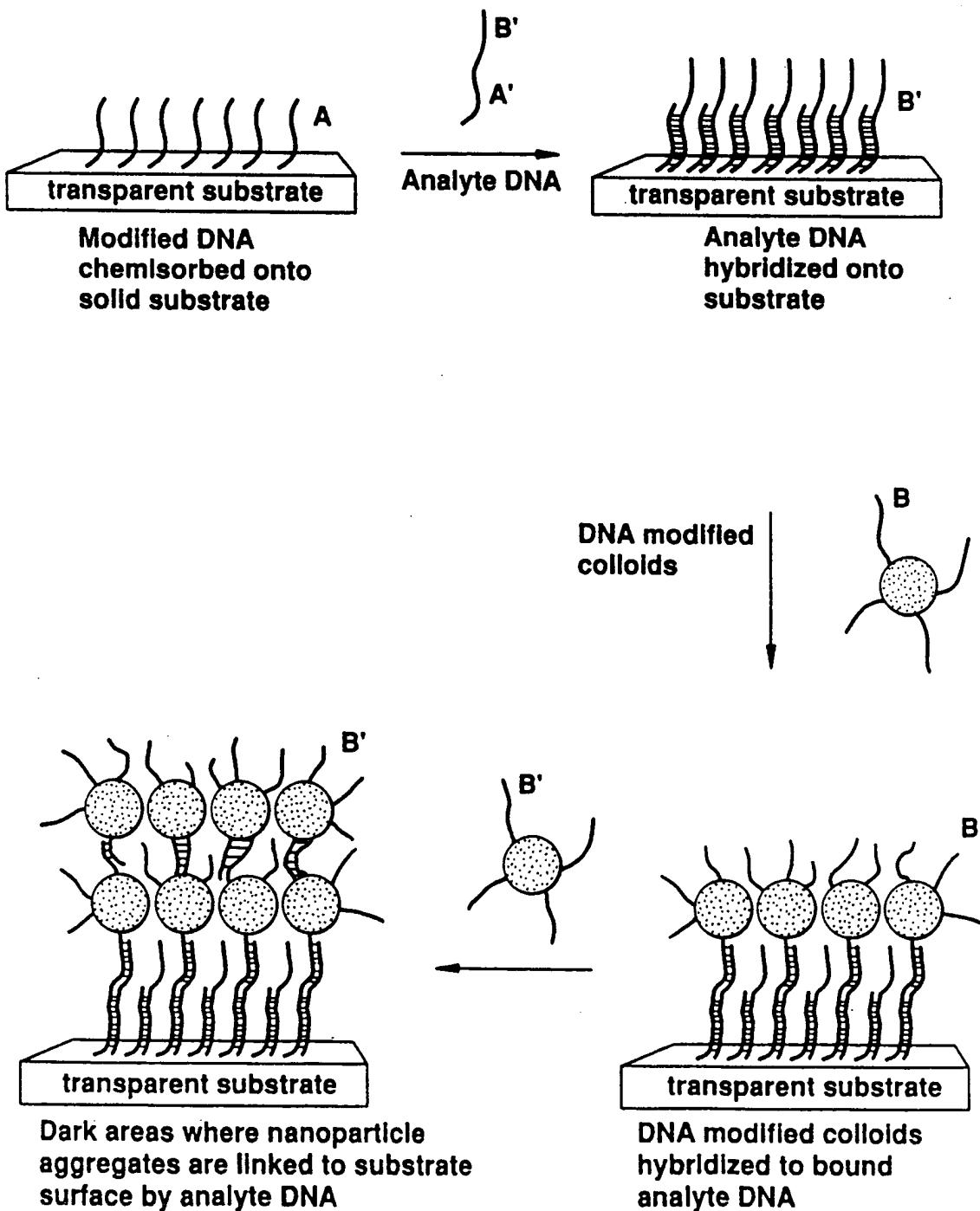


FIG. 13B

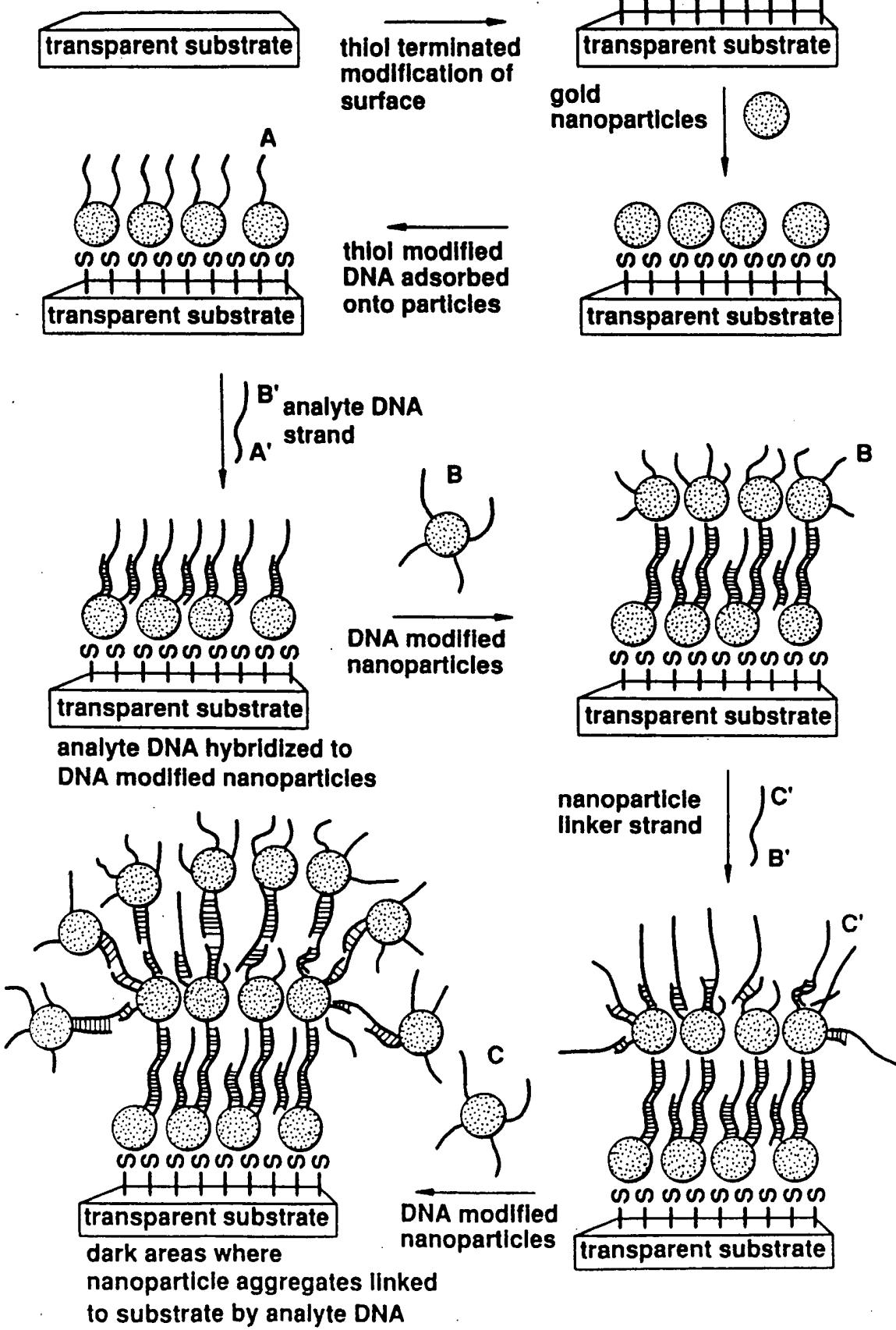


FIG. 14A

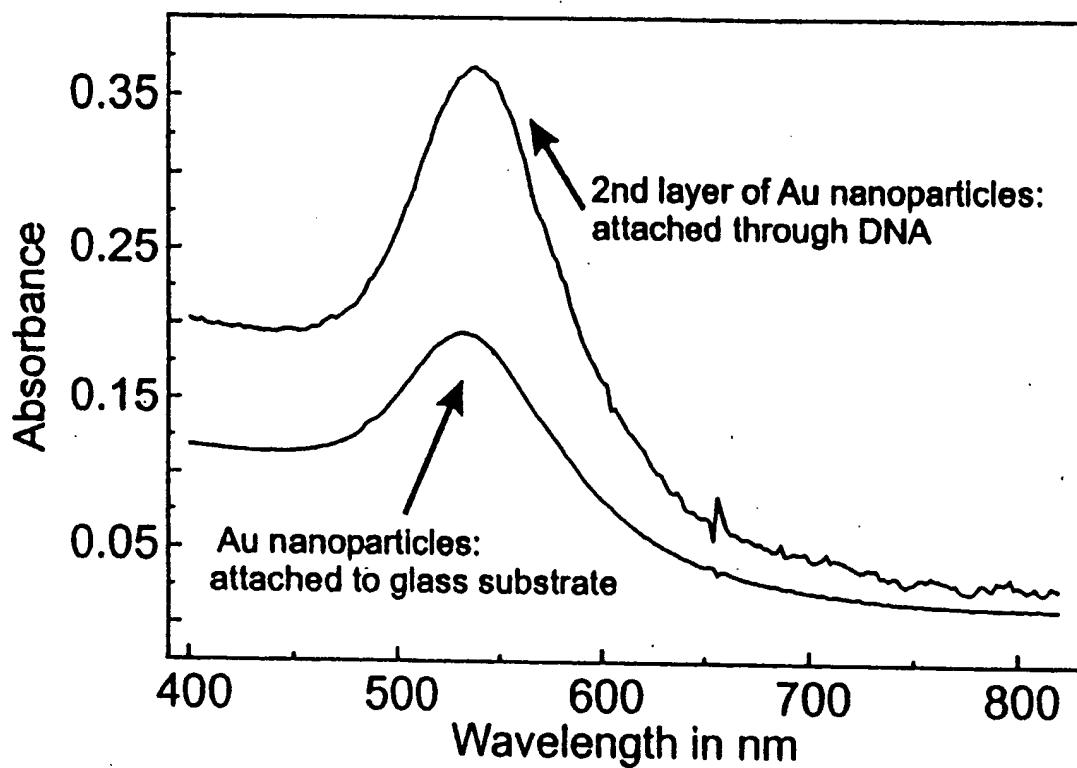


FIG. 14B

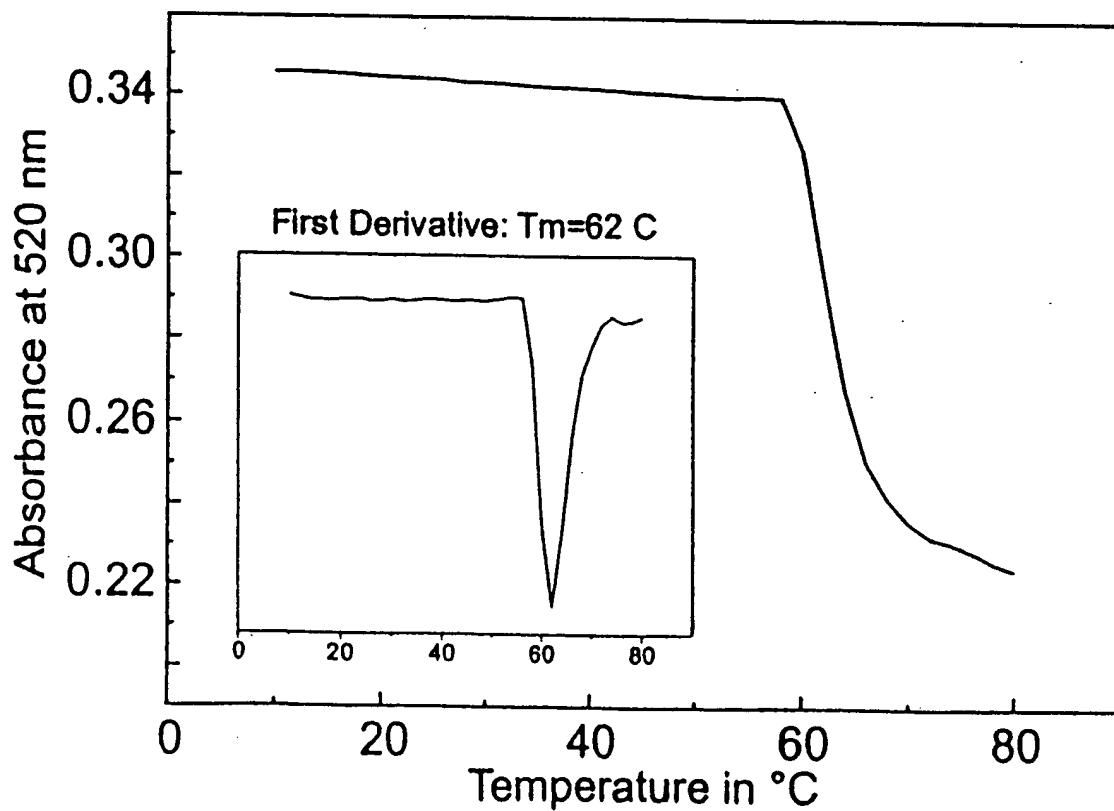


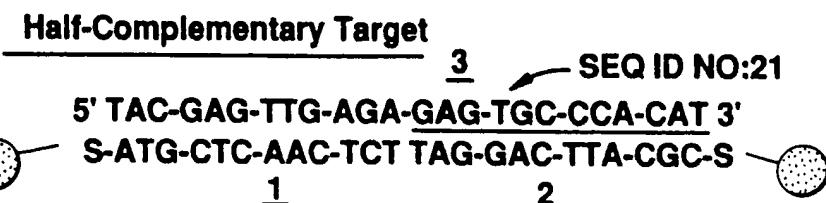
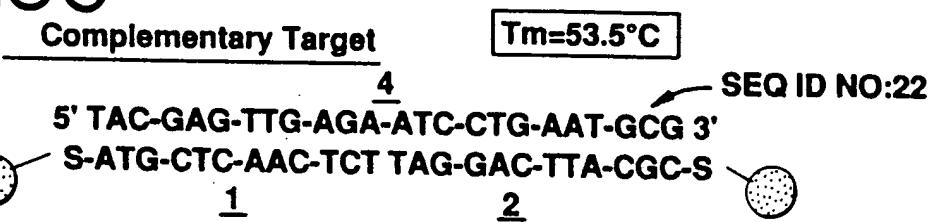
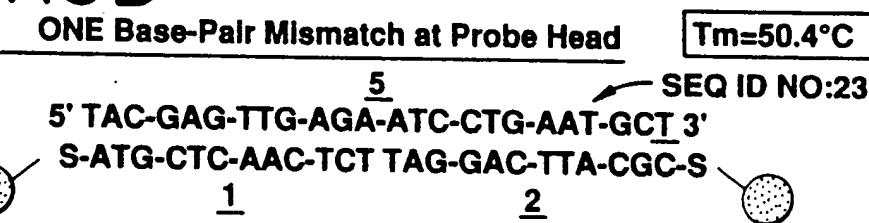
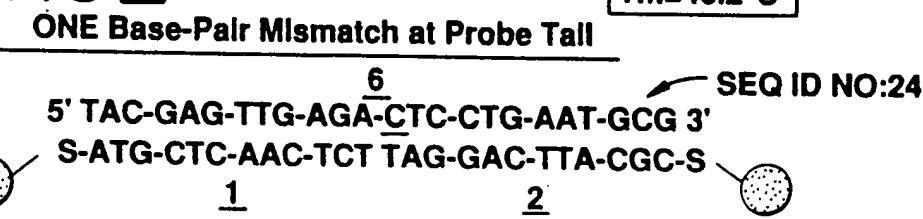
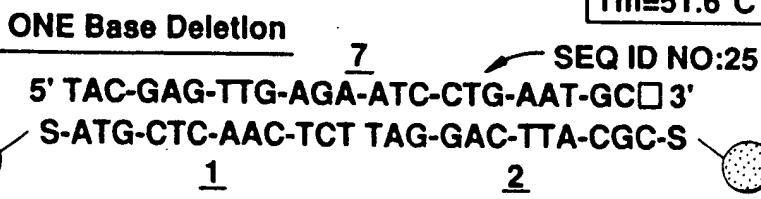
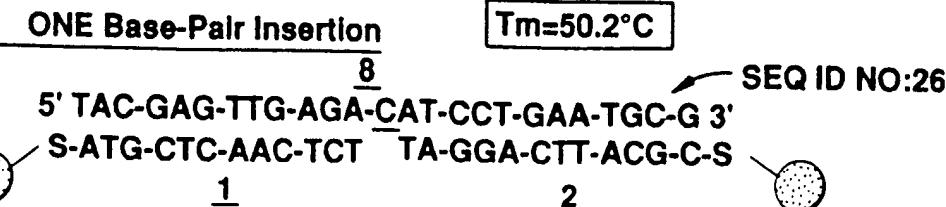
FIG. 15A**FIG. 15B****FIG. 15C****FIG. 15D****FIG. 15E****FIG. 15F****FIG. 15G**

FIG. 16A**24 Base Template**

5' TAC-GAG-TTG-AGA-ATC-CTG-AAT-GCG 3'
 -S-ATG-CTC-AAC-TCT TAG-GAC-TTA-CGC-S -
1
2

FIG. 16B**48 Base Template with Complementary 24 Base Filler**

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-ATC-CTG-AAT-GCG 3'
 -S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT TAG-GAC-TTA-CGC-S -
1
2

FIG. 16C**72 Base Template with Complementary 48 Base Filler**

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-TAT-TGG-AAG-CGC-TTT-ACG-GAC-AAC-ATC-CTG-AAT-GCG 3'
 -S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT-TAA-CCT-GCG-AAA-TGC-CTG-TTG TAG-GAC-TTA-CGC-S -
1
2

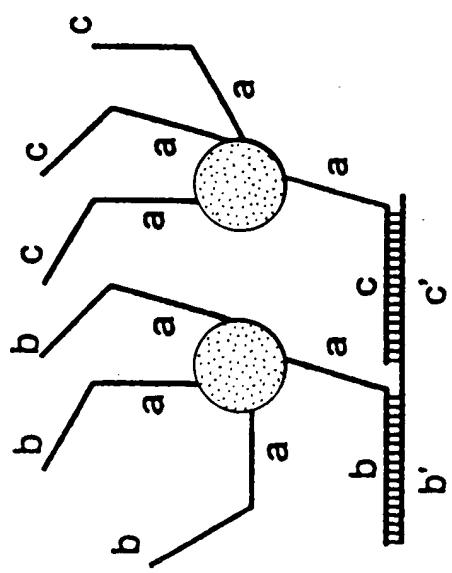
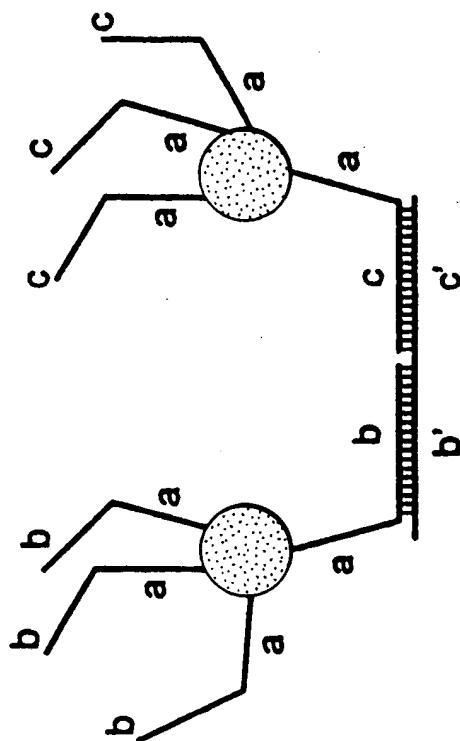
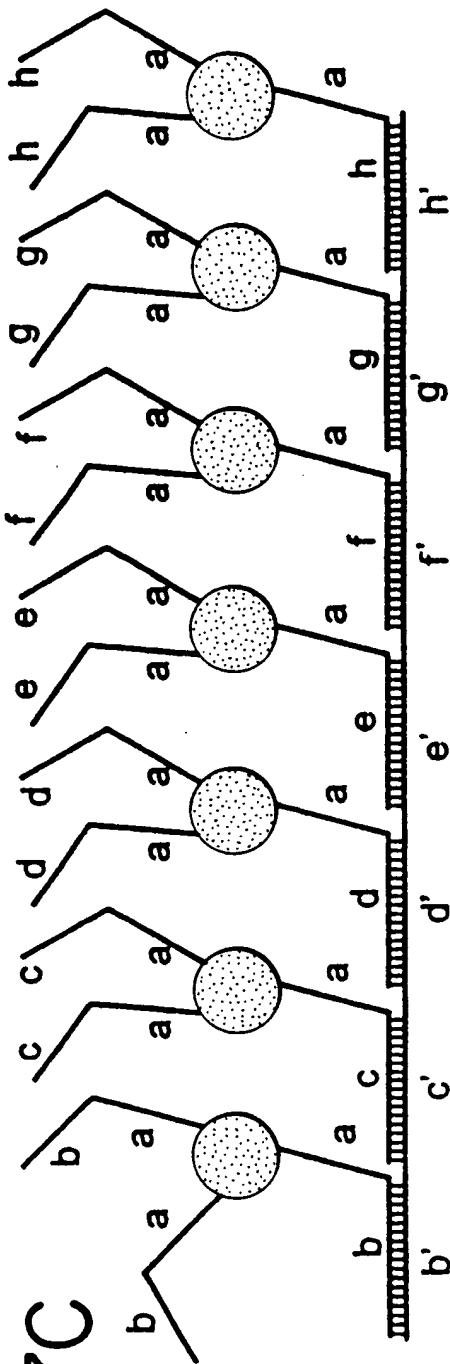
FIG. 17A**FIG. 17B****FIG. 17C**

FIG. 17D

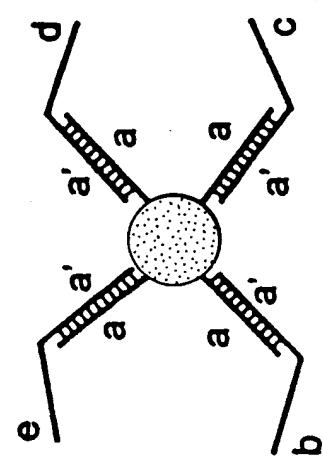
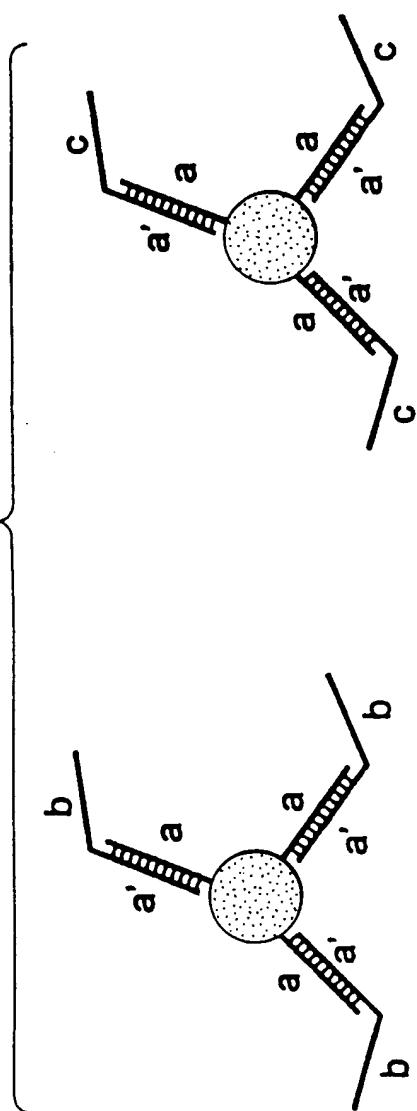


FIG. 17E

FIG. 18

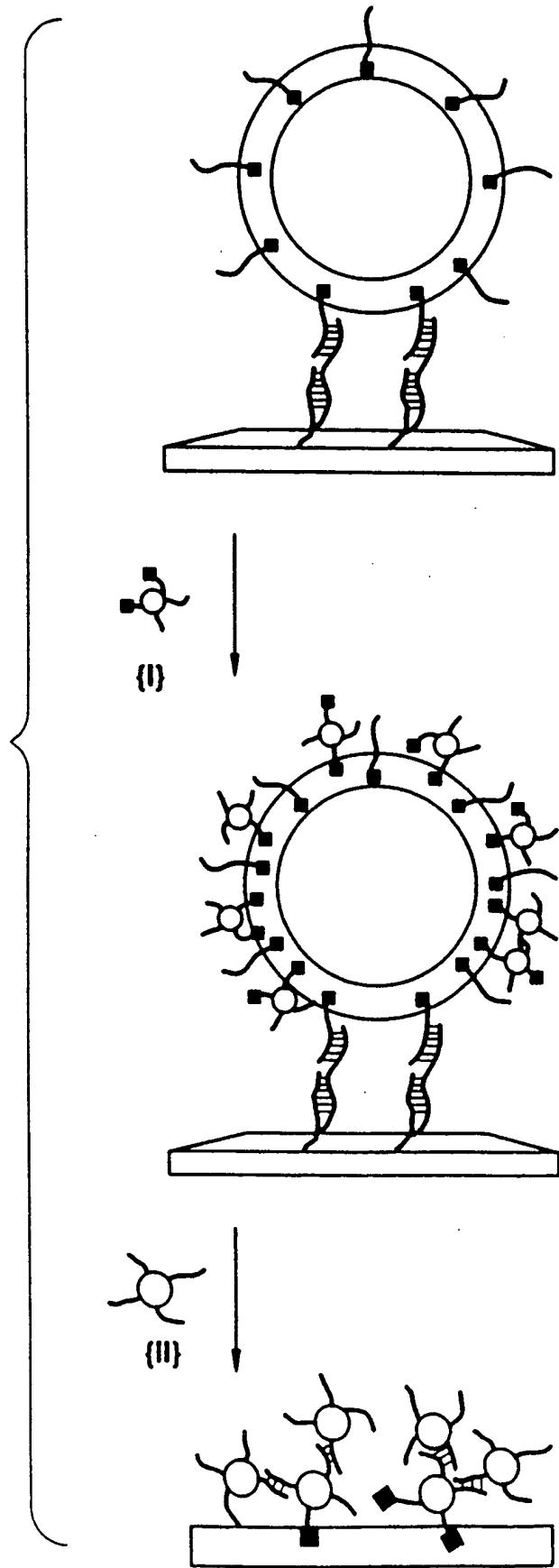


FIG. 19A

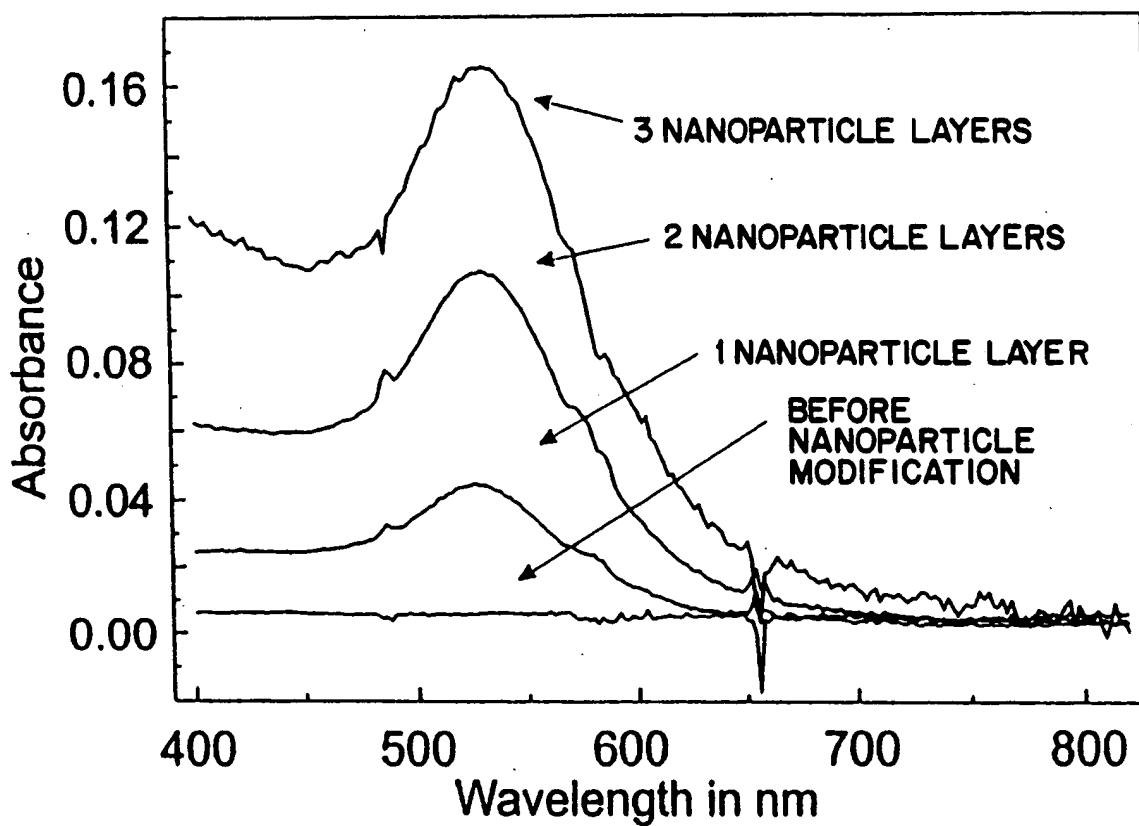


FIG. 19B

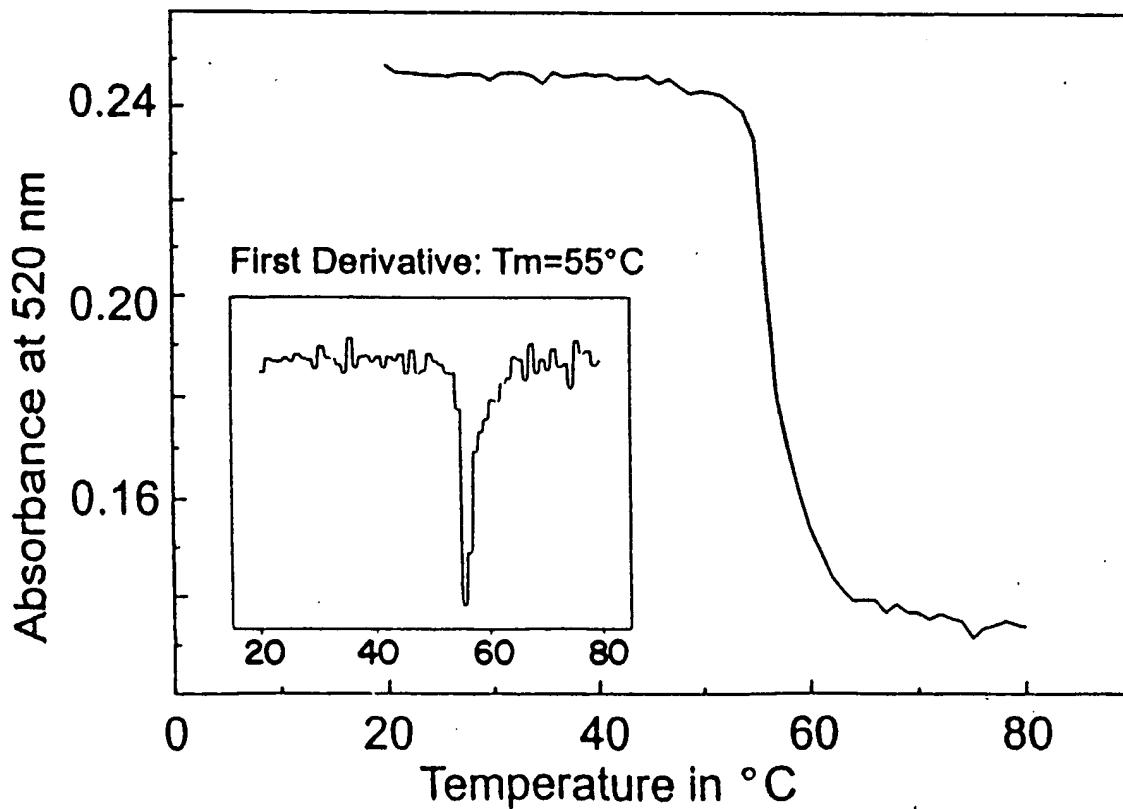


FIG. 20A

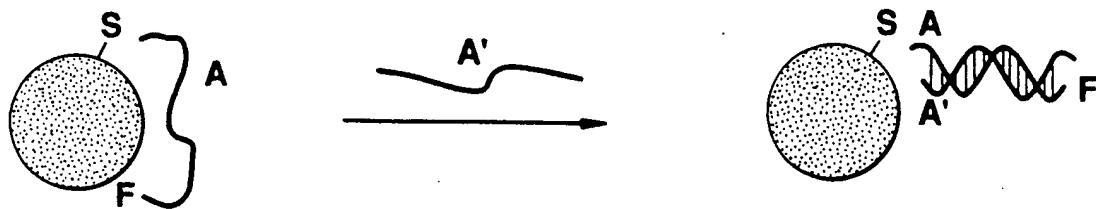


FIG. 20B

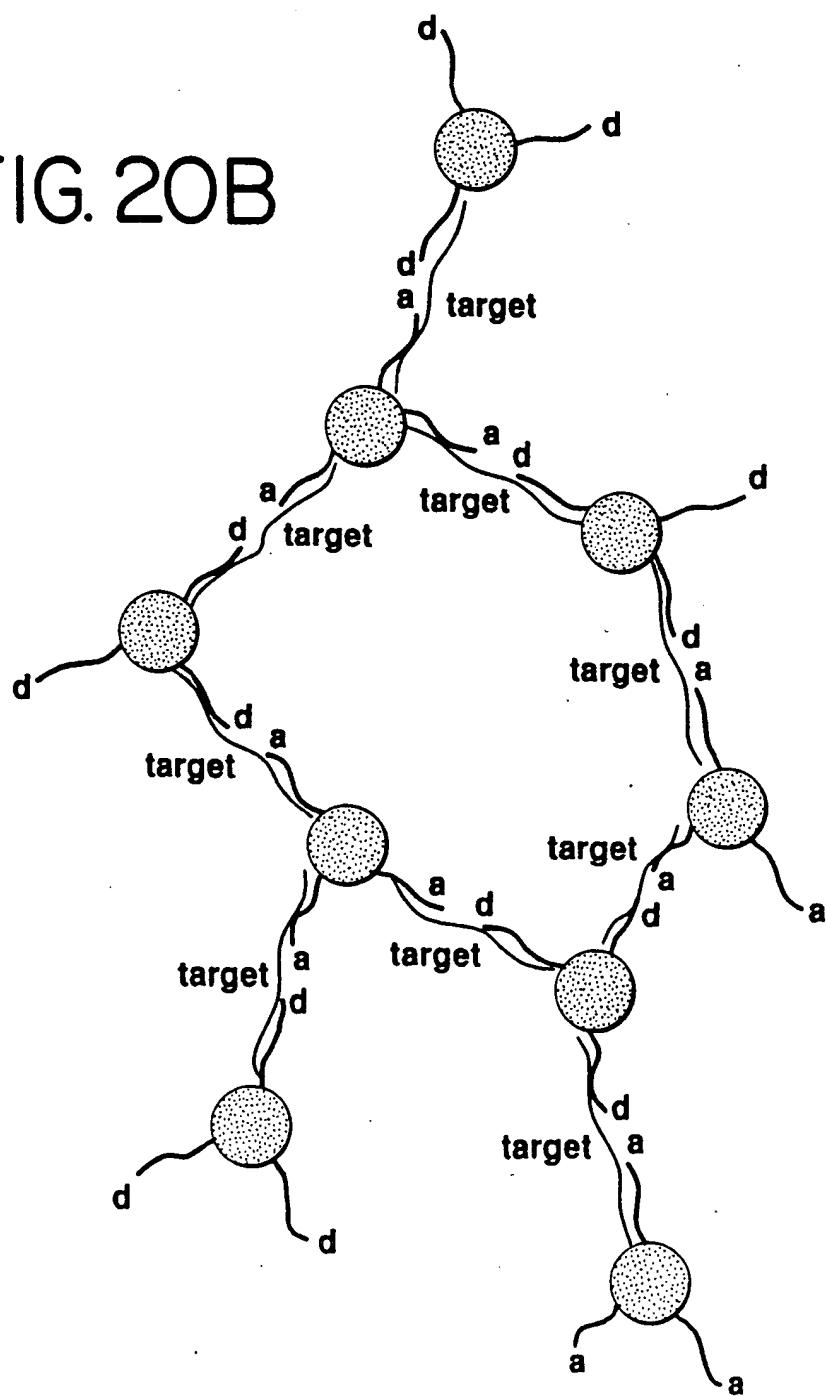


FIG. 2

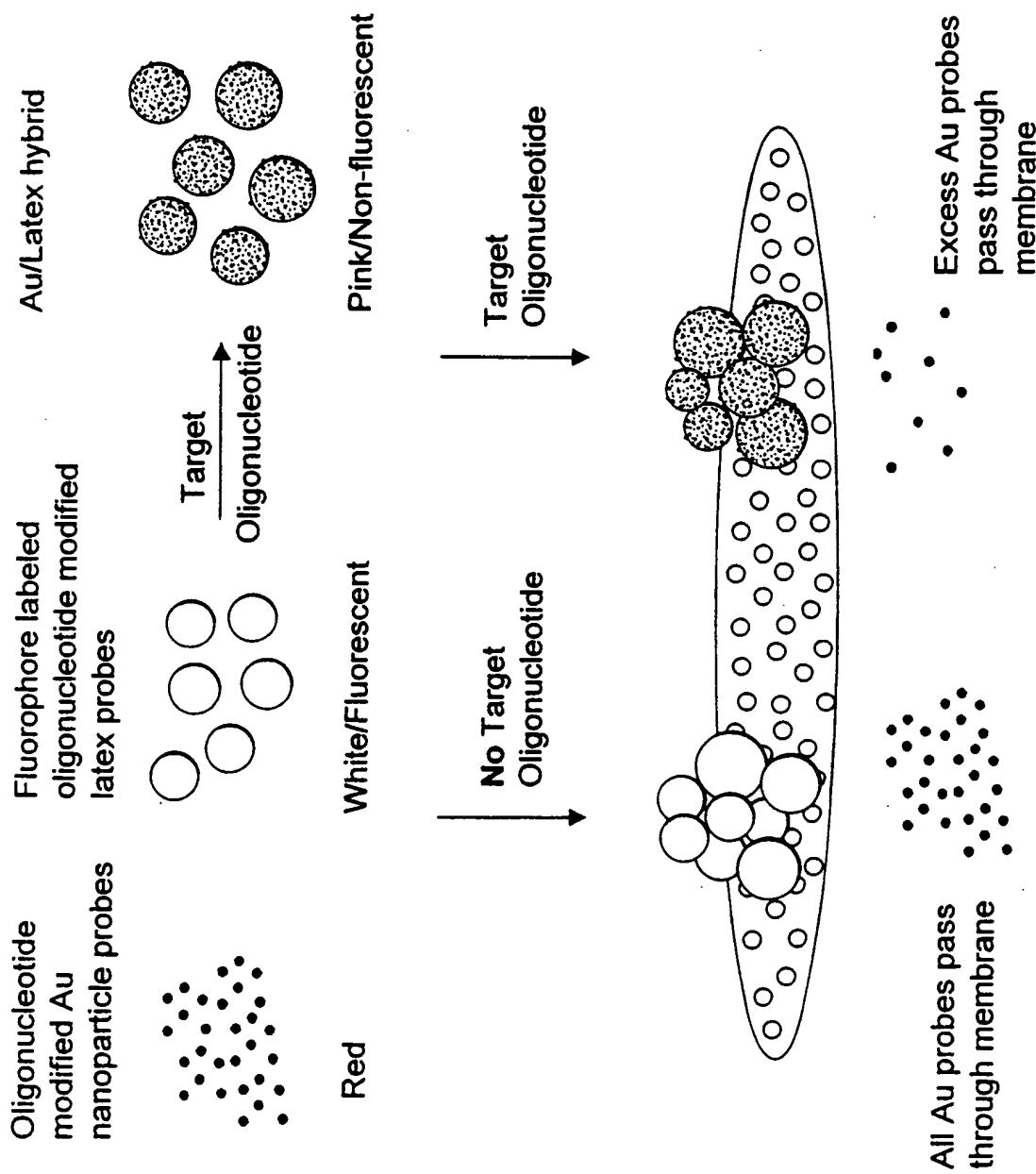


FIG. 22

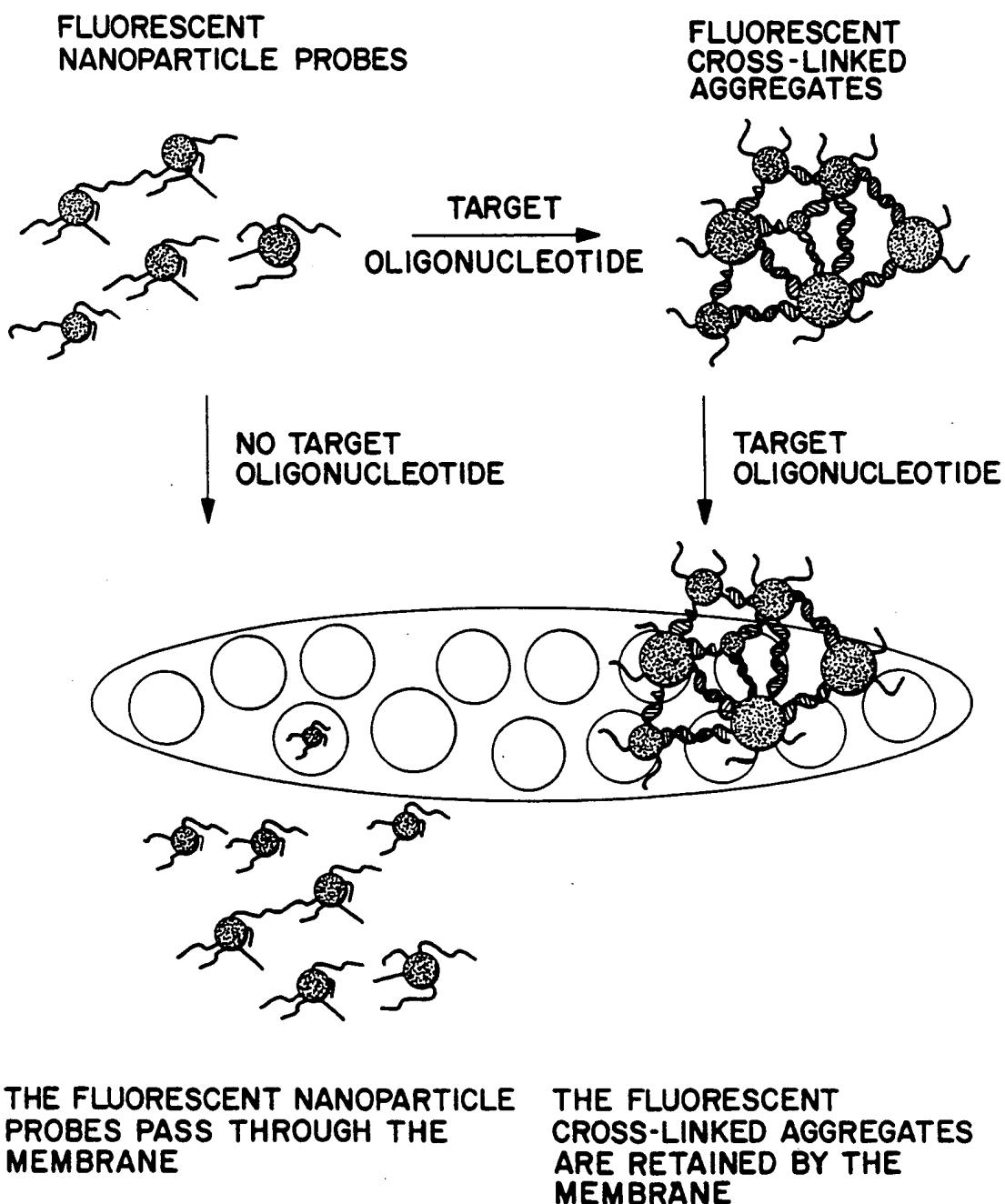


FIG. 23

Anthrax PCR Product

5'G GCG GAT GAG TCA GTA GTT AAG GAG GCT CAT AGA GAA GTA ATT AAT
 3'C CGC CTA CTC AGT CAT CAA TTC CTC CGA GTA TCT CTT CAT TAA TTA
 TCG TCA ACA GAG GGA TTA TTG TTA AAT ATT GAT AAG GAT ATA AGA AAA
 AGC AGT TGT CTC CCT AAT AAC AAT TTA TAA CTA TTC CTA TAT TCT TTT
 ATA TTA TCC AGG GTT ATA TTG TAG AAA TTG AAG ATA CTG AAG GGC TT 3'
 TAT AAT AGG TCC CAA TAT AAC ATC TTT AAC TTC TAT GAC TTC CCG AA 5'

141 mer Anthrax PCR product [SEQ ID NO:36]

3' CTC CCT AAT AAC AAT



[SEQ ID NO:37]

3' TTA TAA CTA TTC CTA



[SEQ ID NO:38]

Oligonucleotide-Nanoparticle Probes

Blocker Oligonucleotides

3' C CGC CTA CTC AGT CAT CAA TTC CTC CGA GT
 3' A TCT CTT CAT TAA TTA AGC AGT TGT
 3' TAT TCT TTT TAT AAT AGG TCC CAA TAT
 3' AAC ATC TTT AAC TTC TAT GAC TTC CCG AA

[SEQ ID NO:39]
 [SEQ ID NO:40]
 [SEQ ID NO:41]
 [SEQ ID NO:42]

FIG. 24

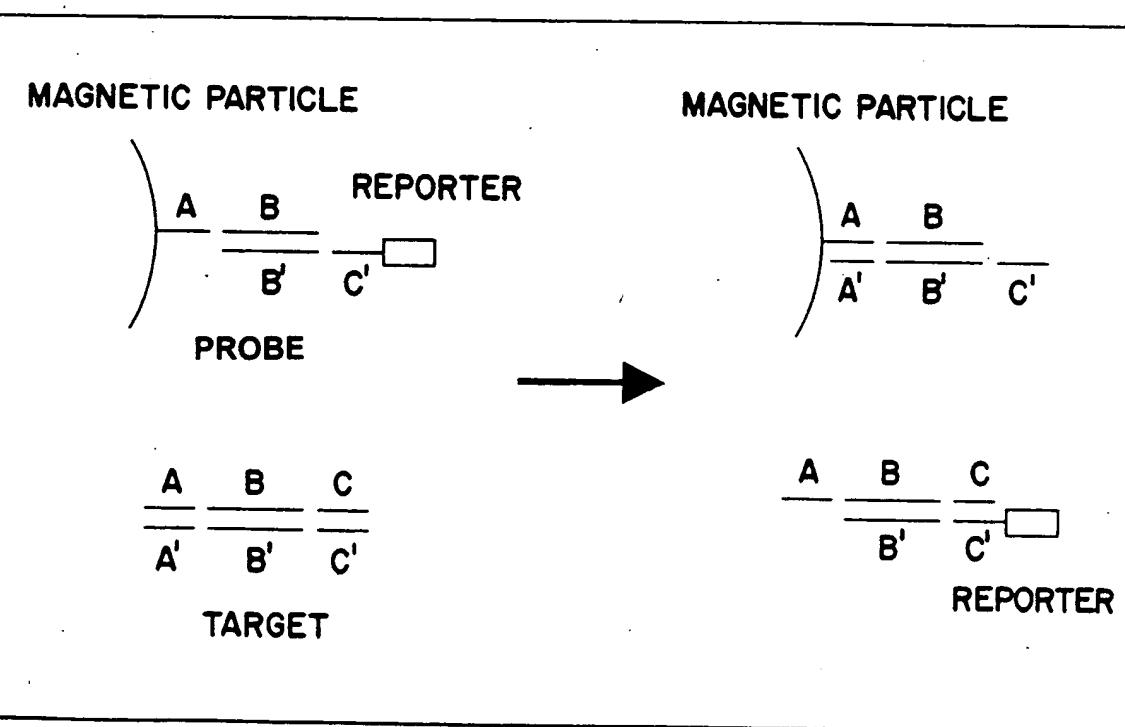
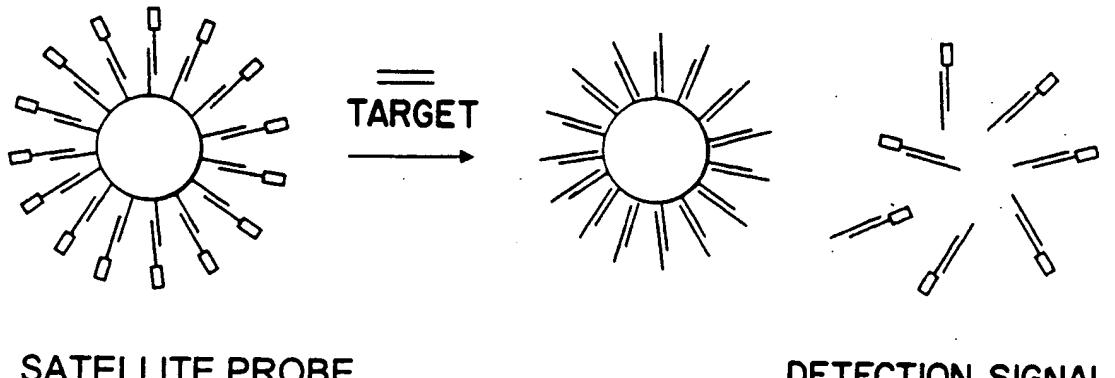


FIG. 25A

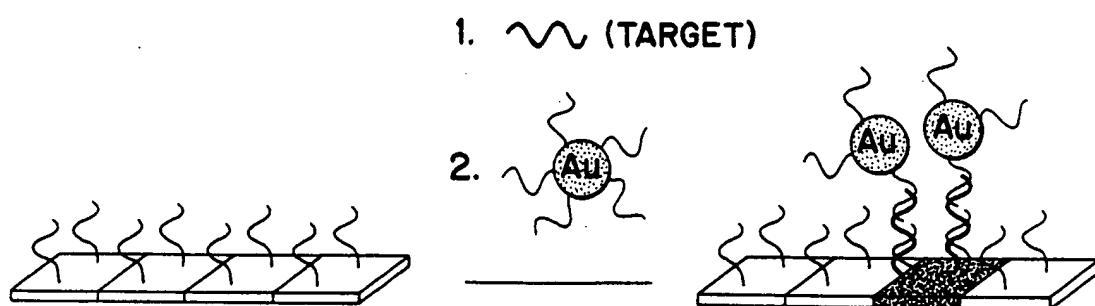


FIG. 25B

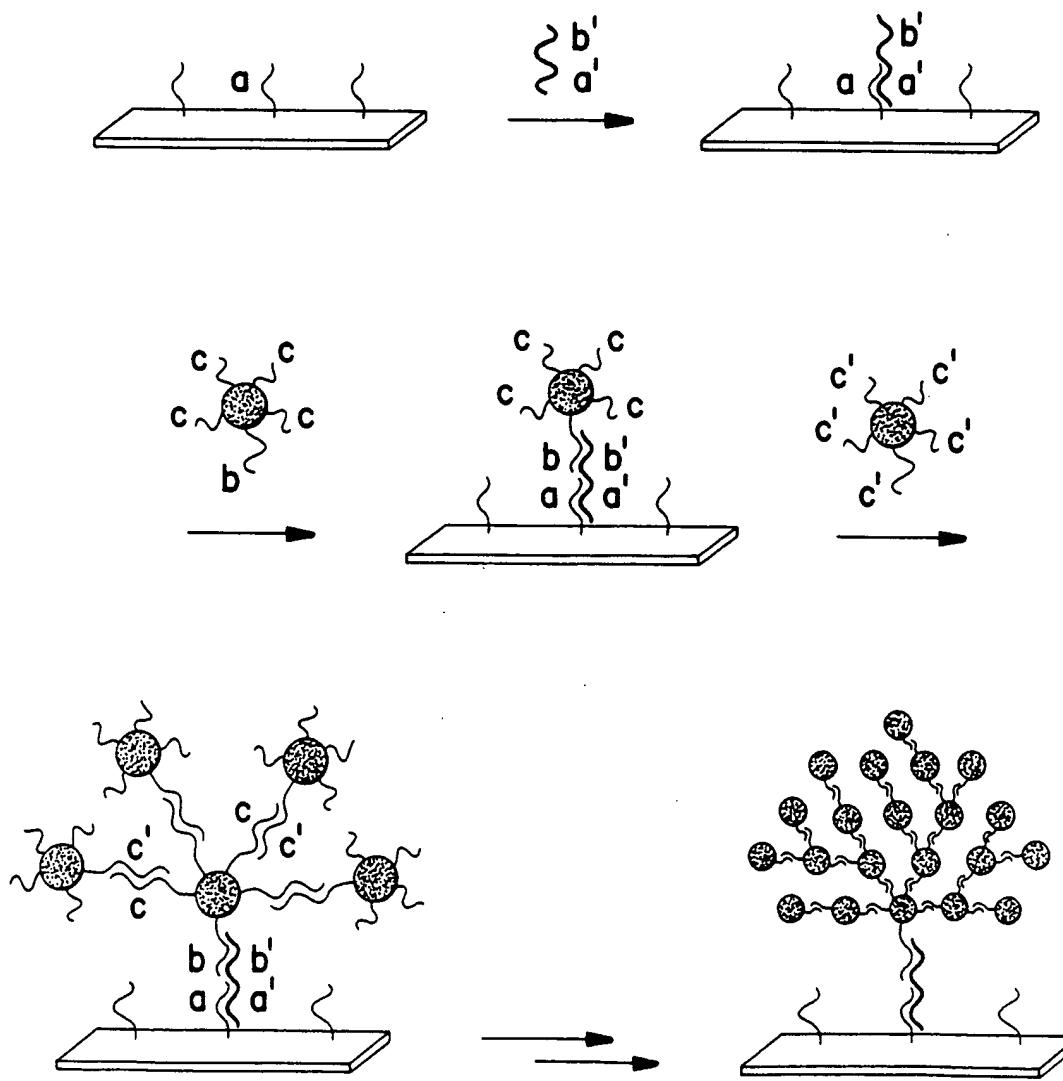


FIG. 26A

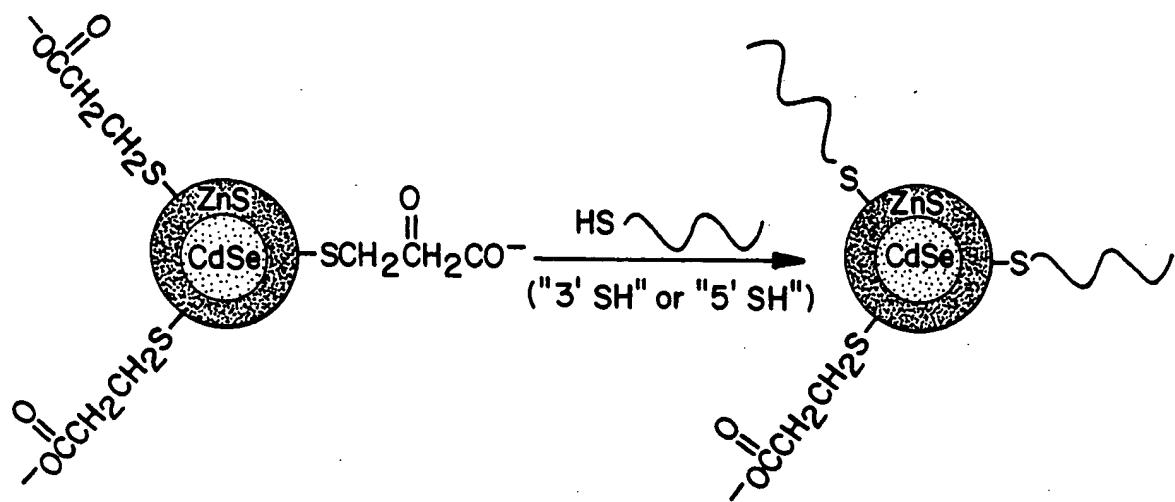


FIG. 26B

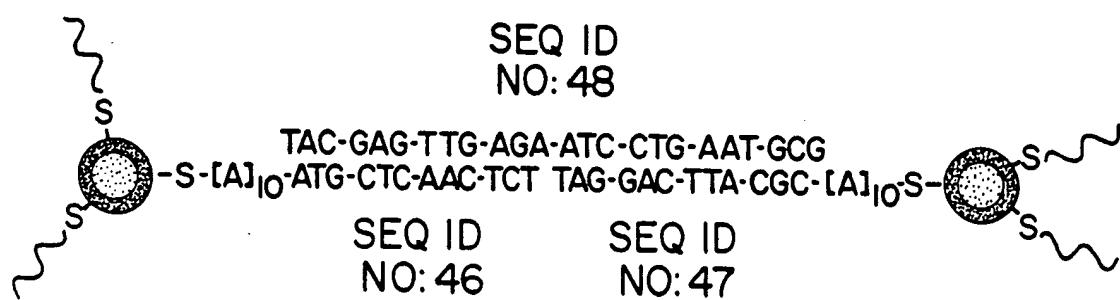


FIG. 27A

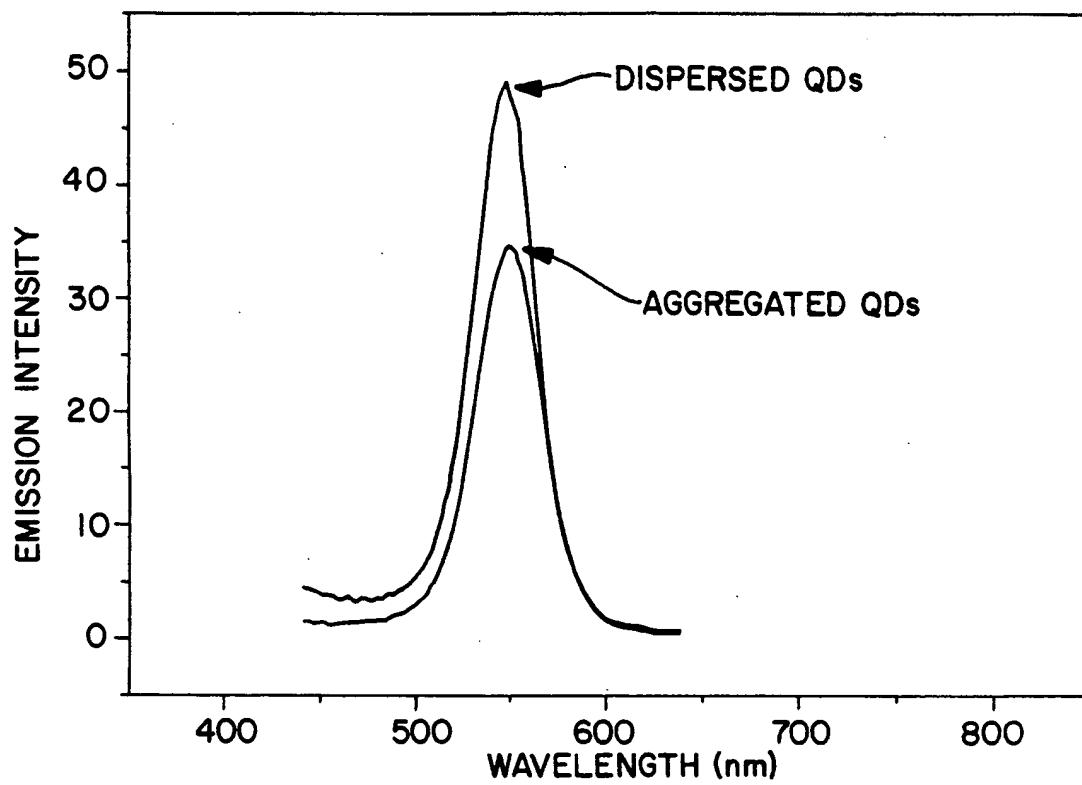


FIG. 27B

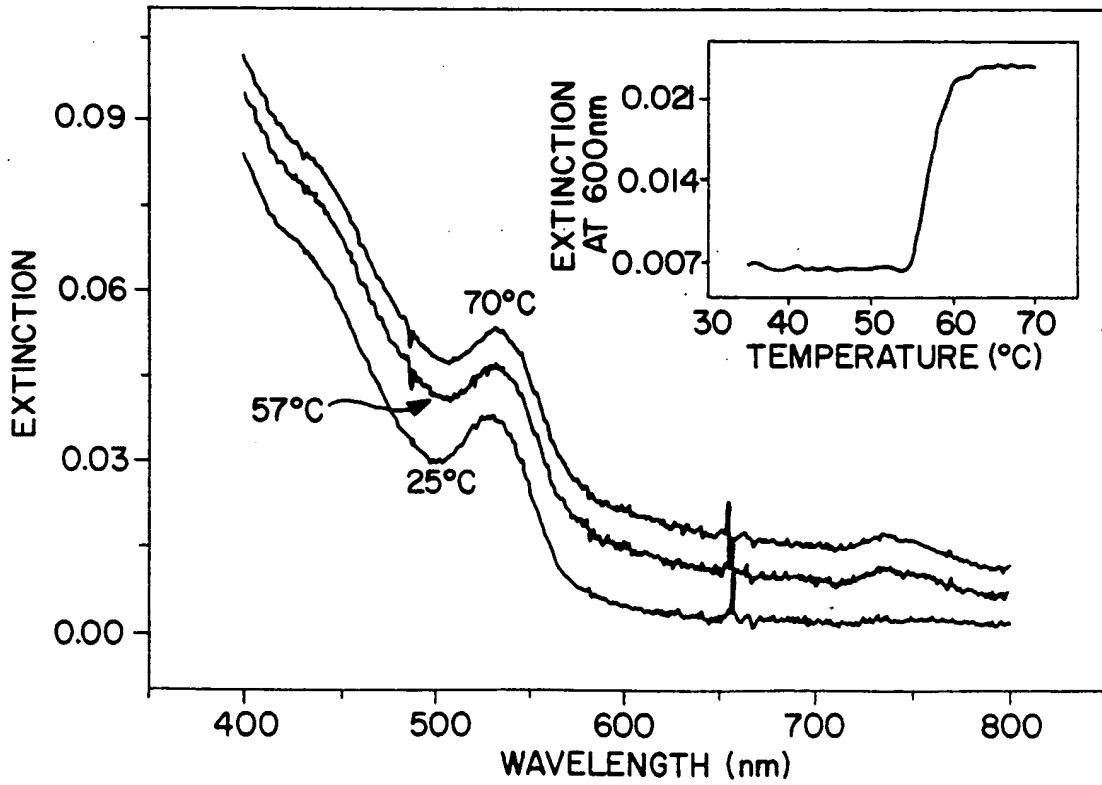


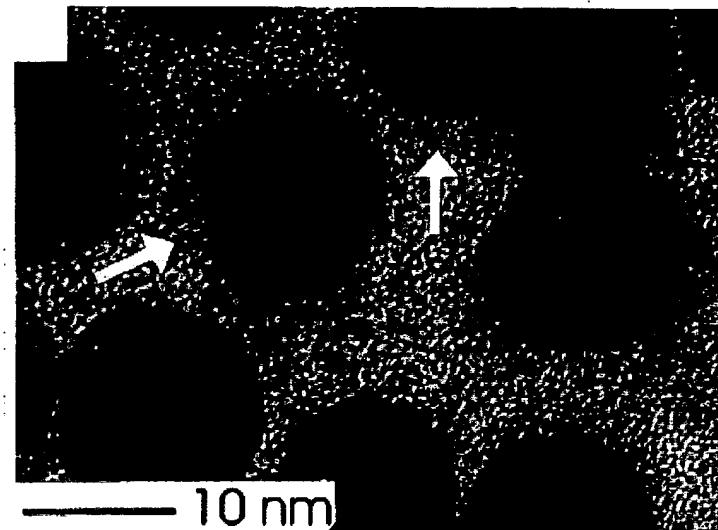
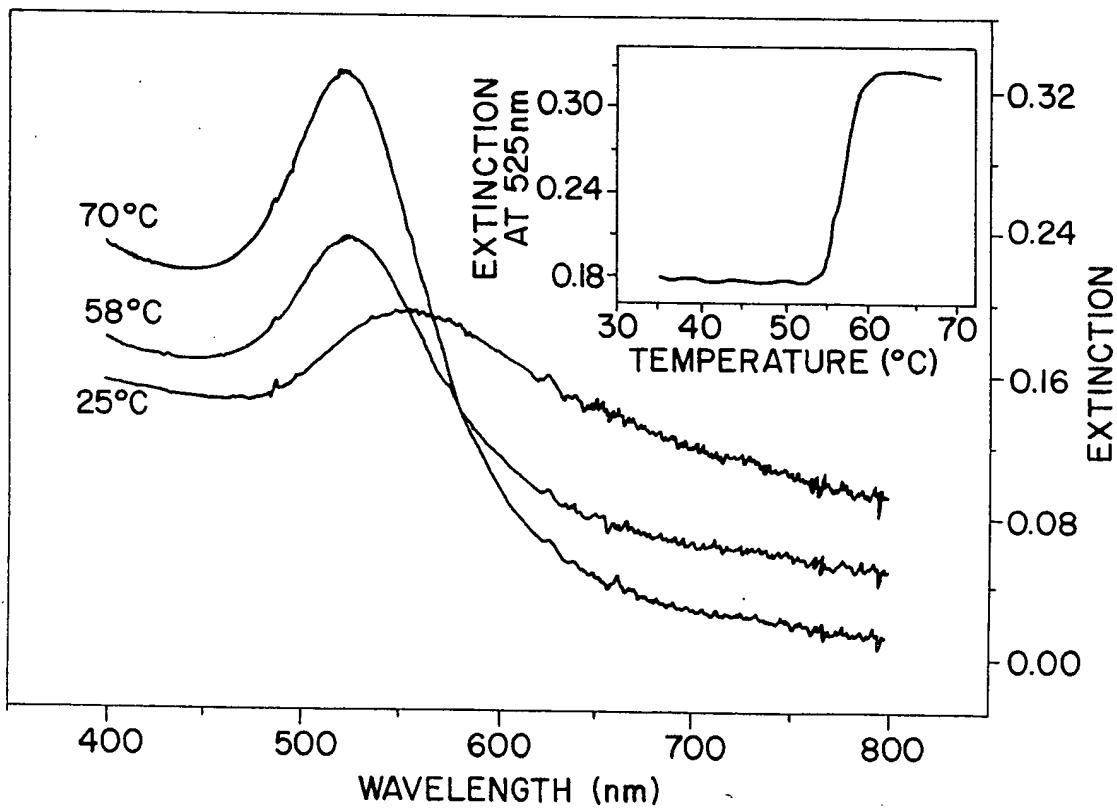
FIG. 27C**FIG. 27D**

FIG. 28A

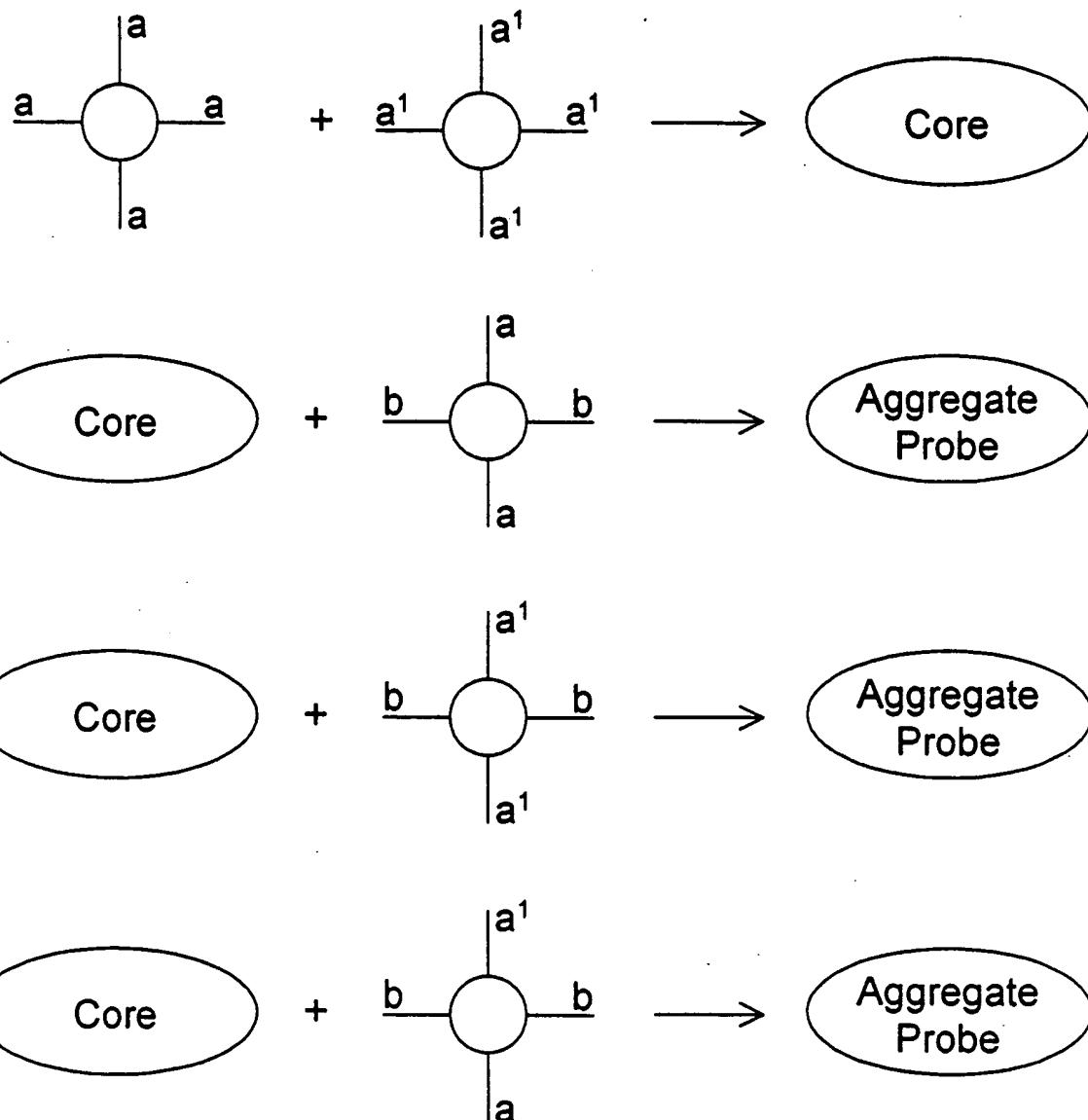


FIG. 28B

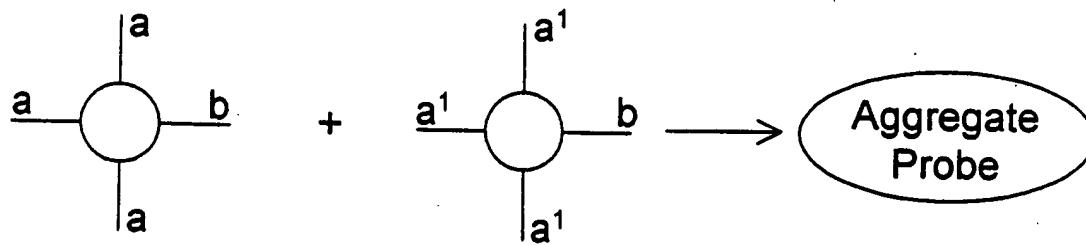


FIG. 28C

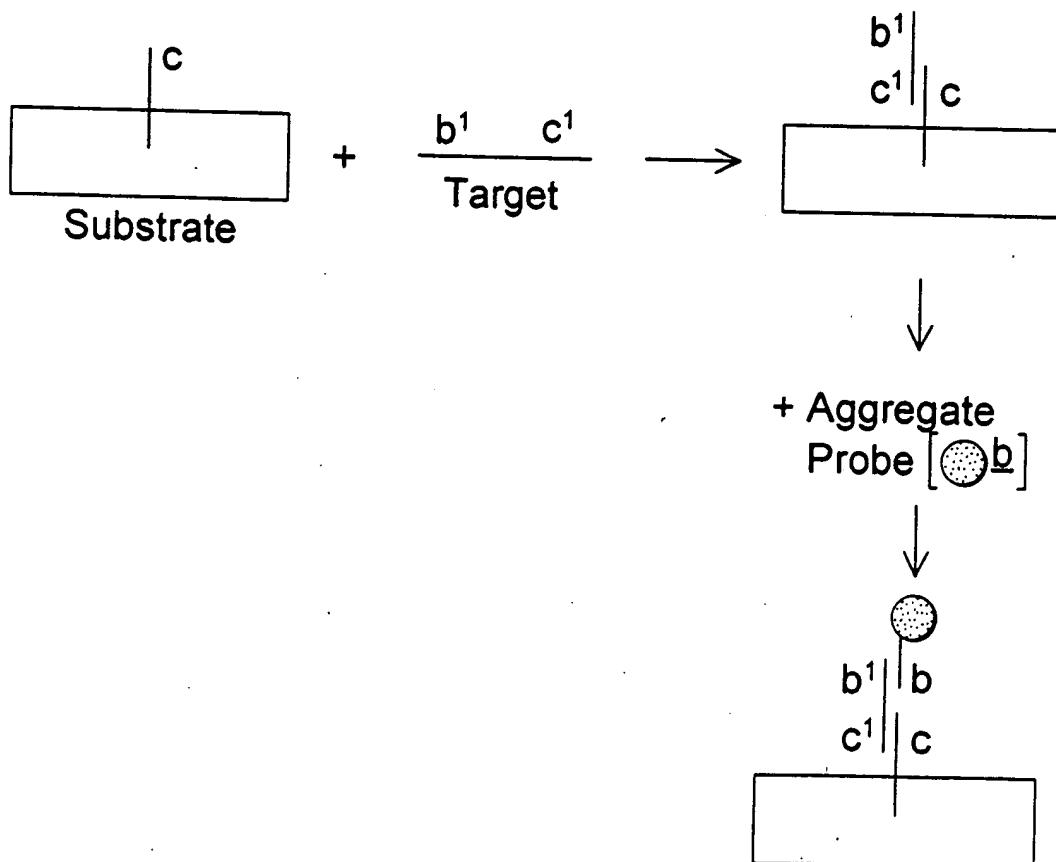


FIG. 28D

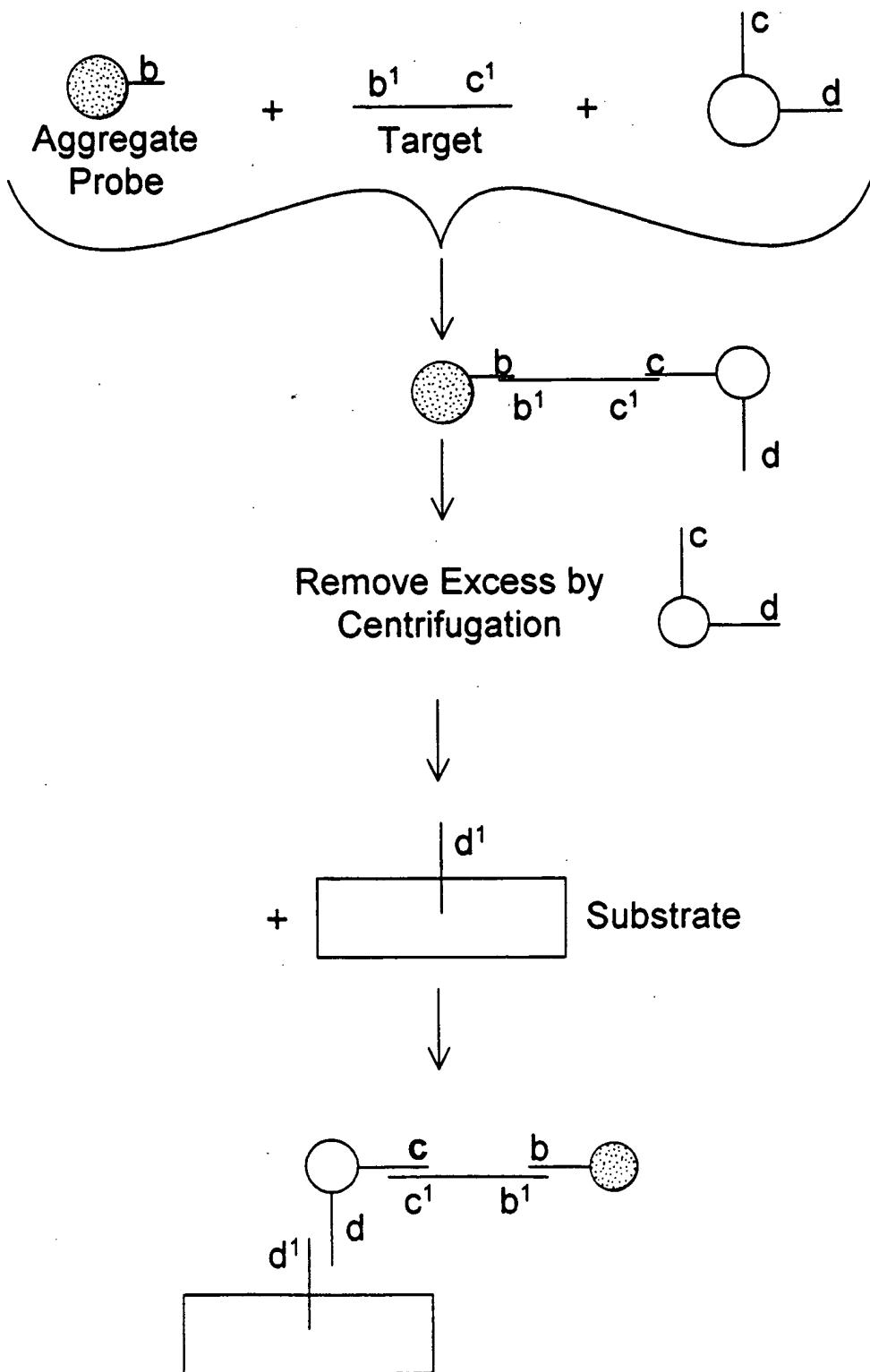
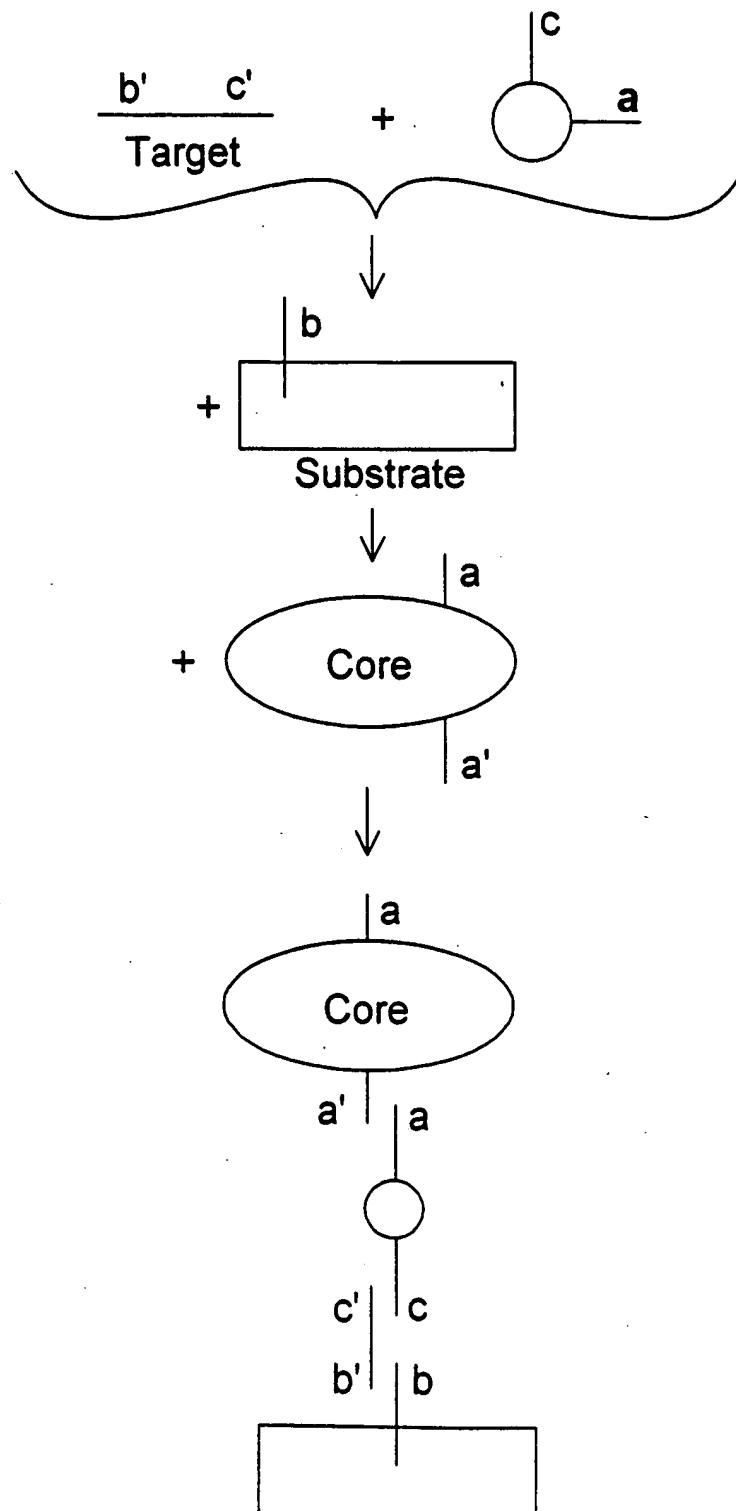


FIG. 28E



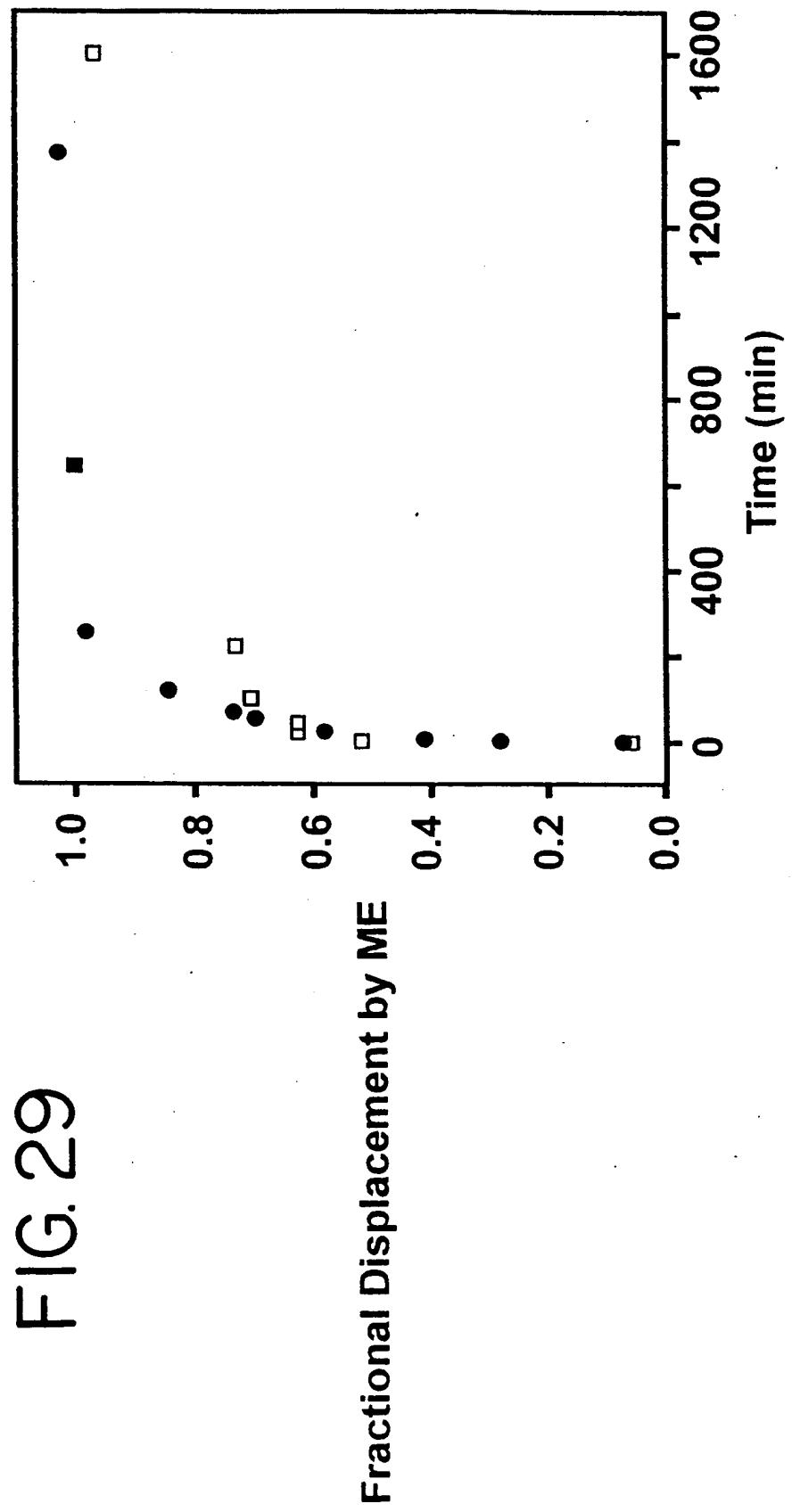


FIG. 30

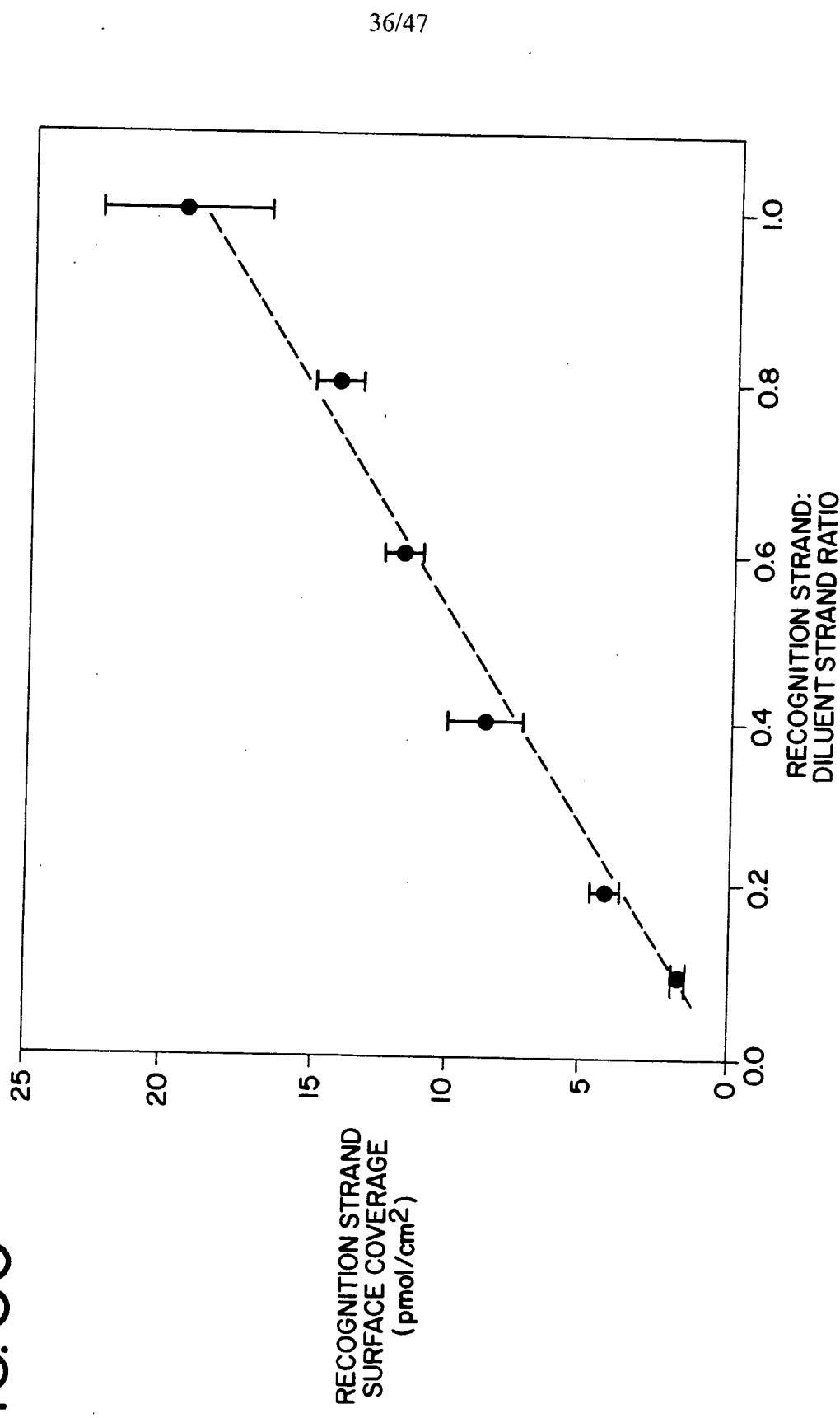


FIG. 3 |

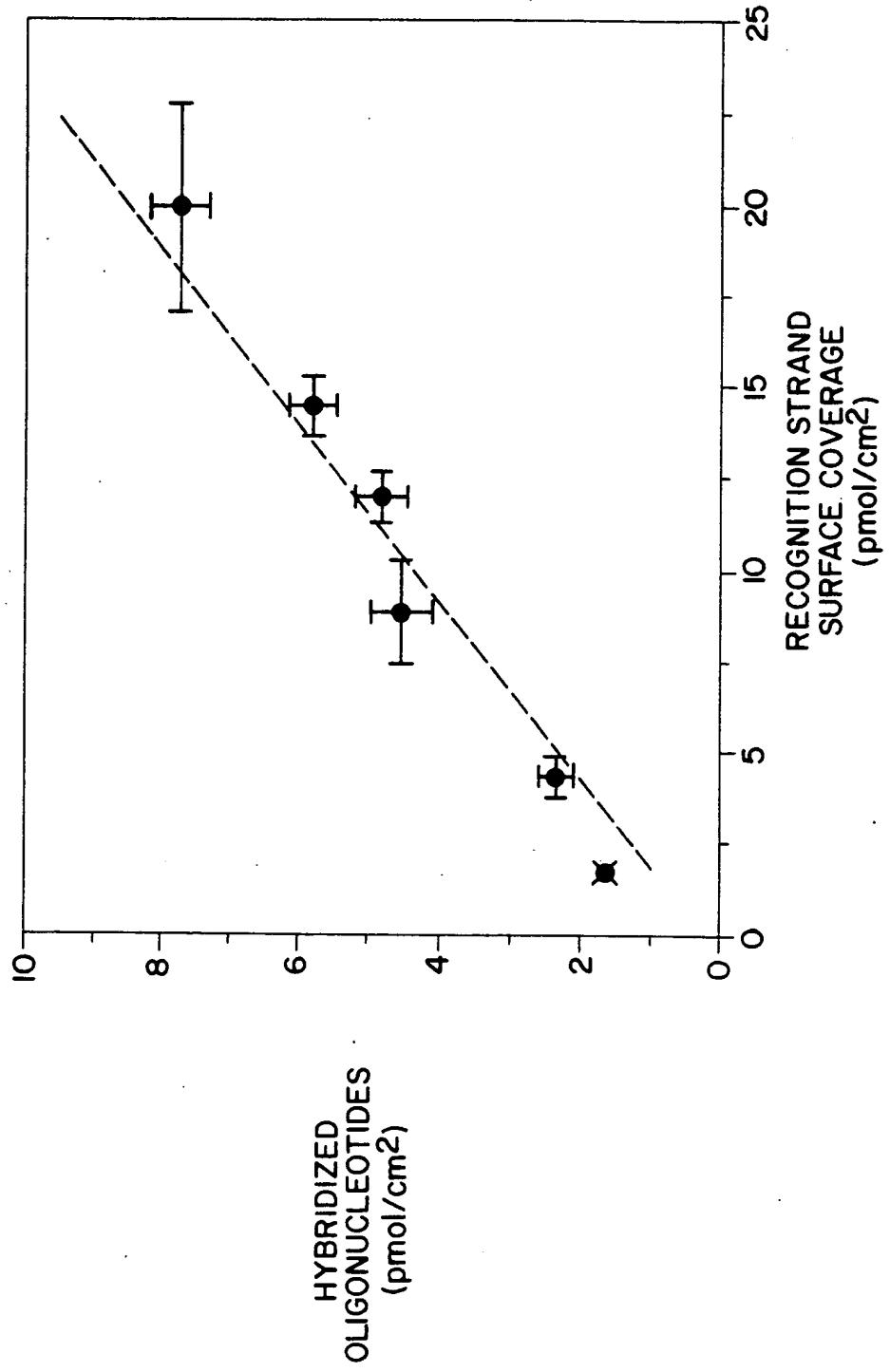
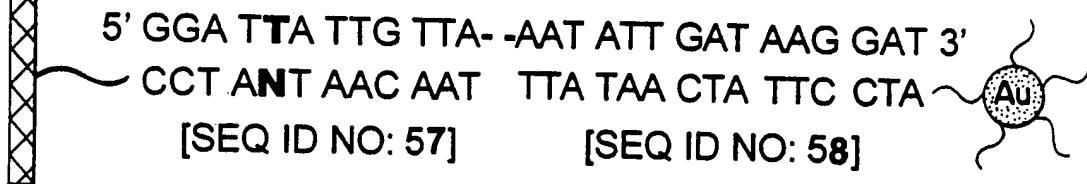


FIG. 32

[SEQIDNO:56]



N = A (complementary),
G,C,T (mismatched)

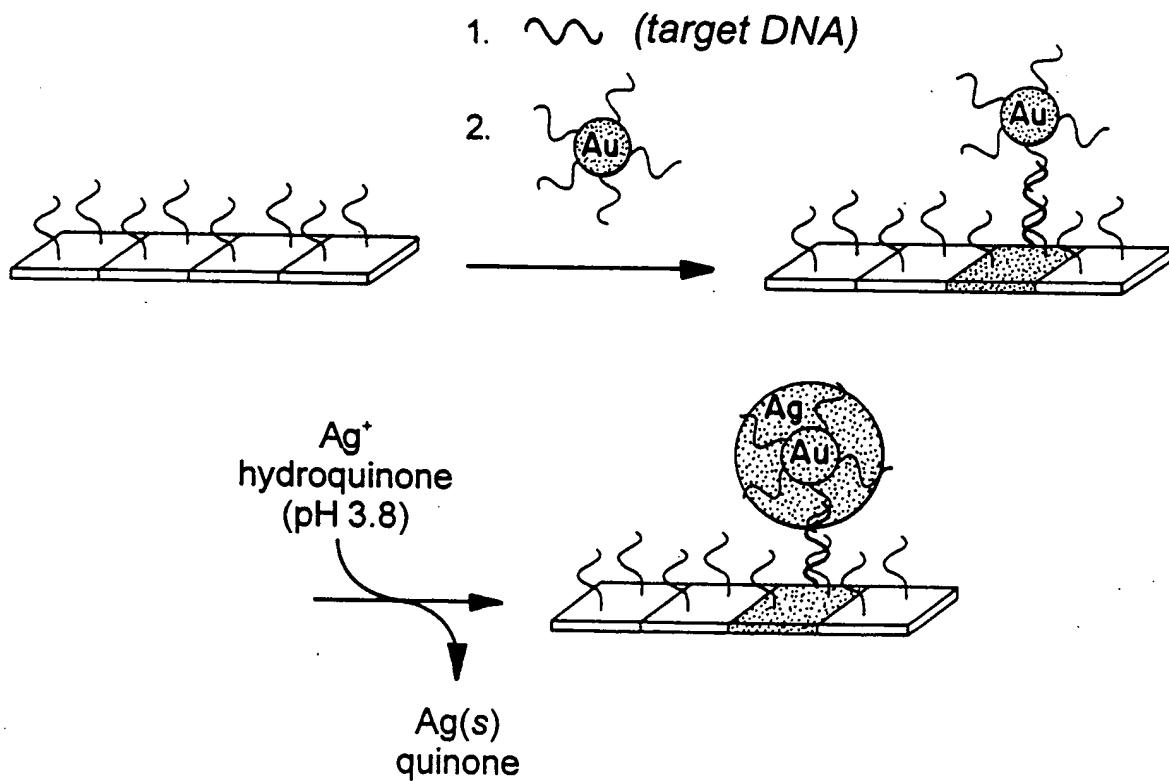
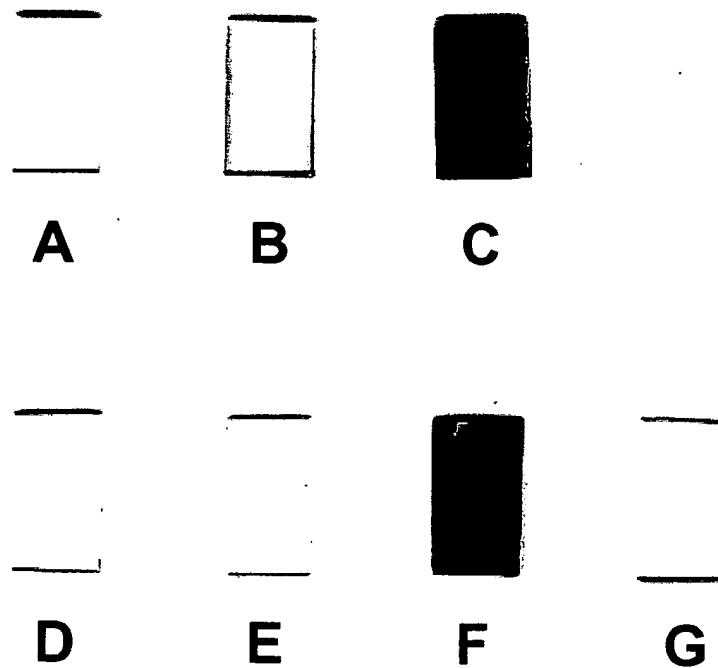


FIG. 33



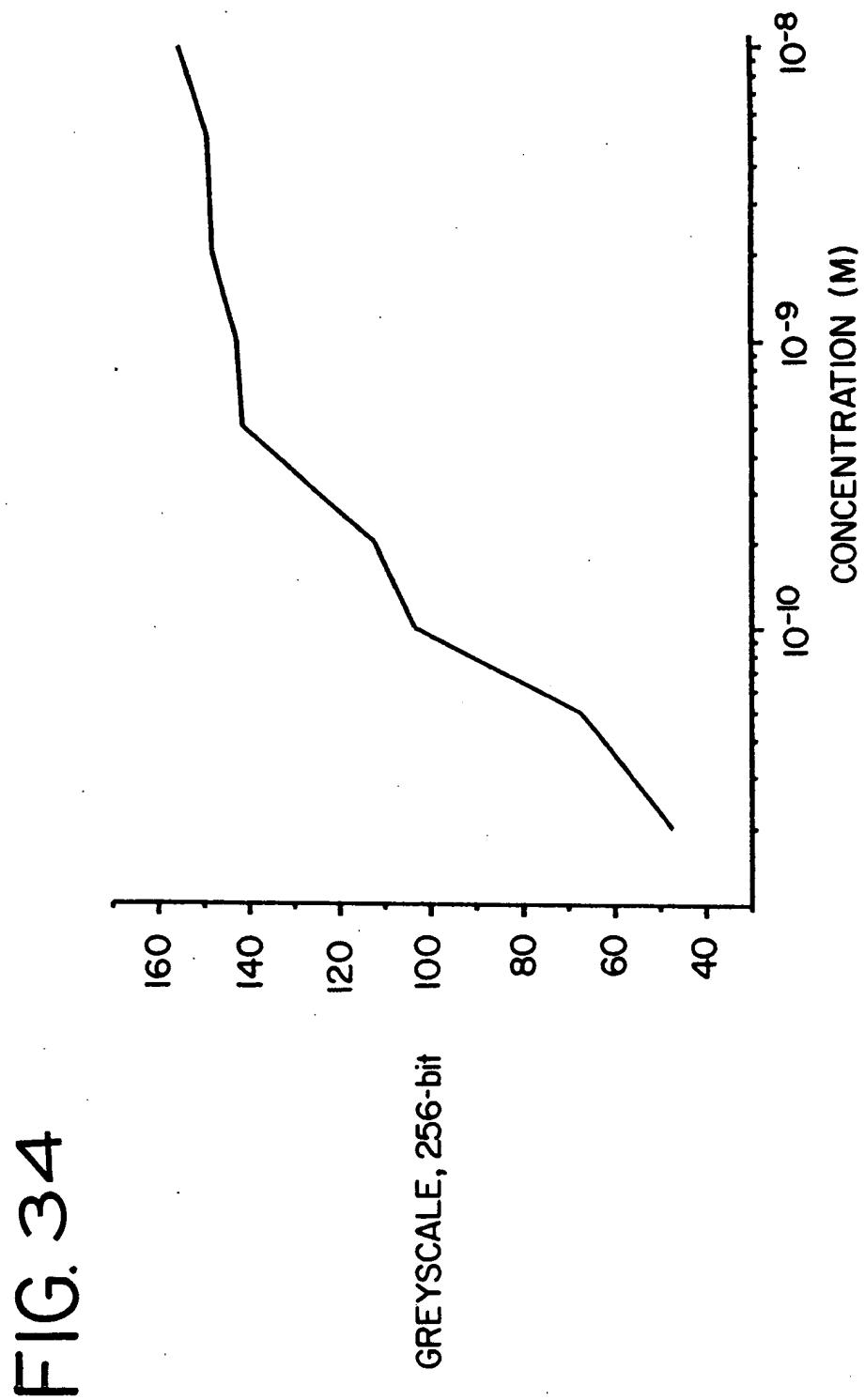


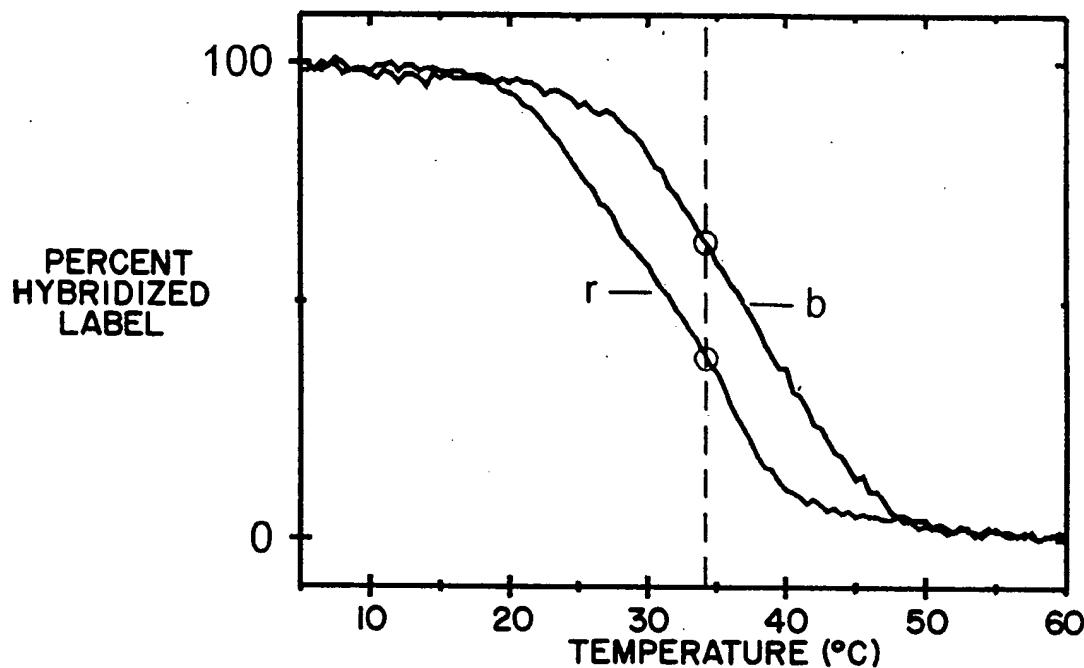
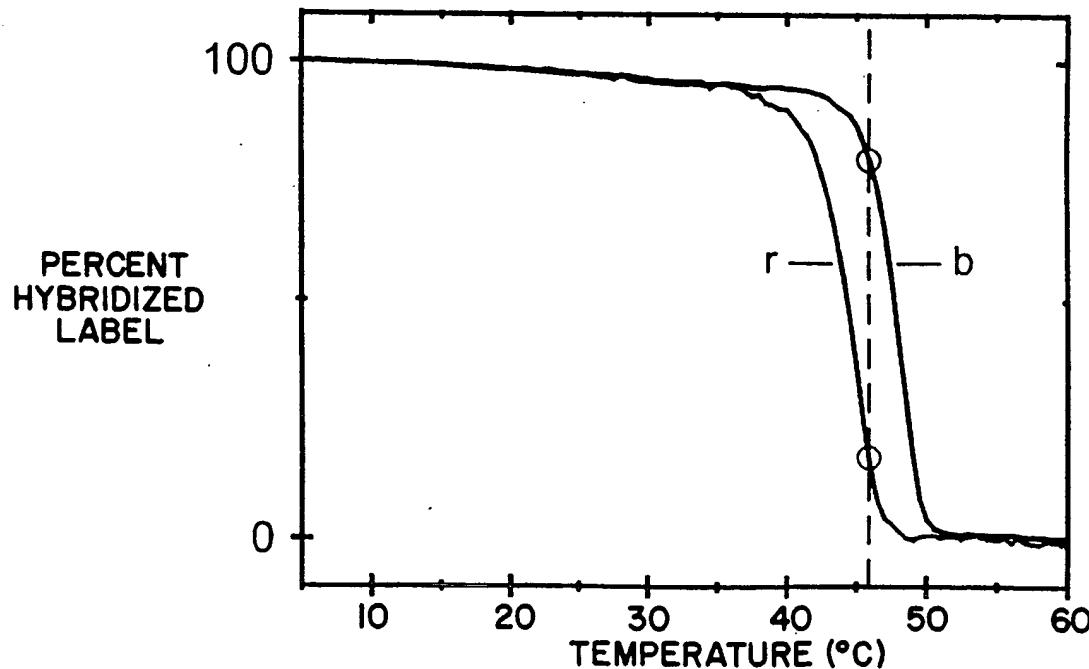
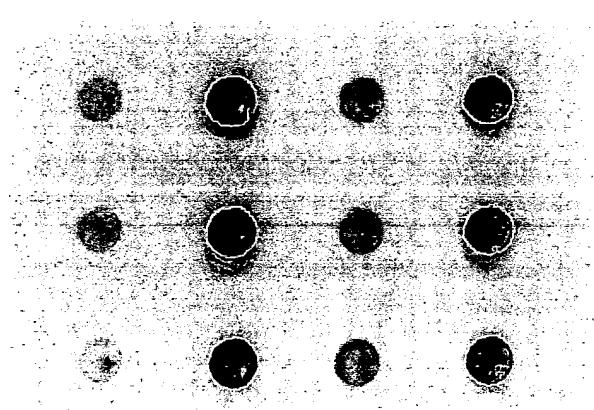
FIG.35A**FIG.35B**

FIG. 36A



FIG. 36B



C A T G

FIG.37A

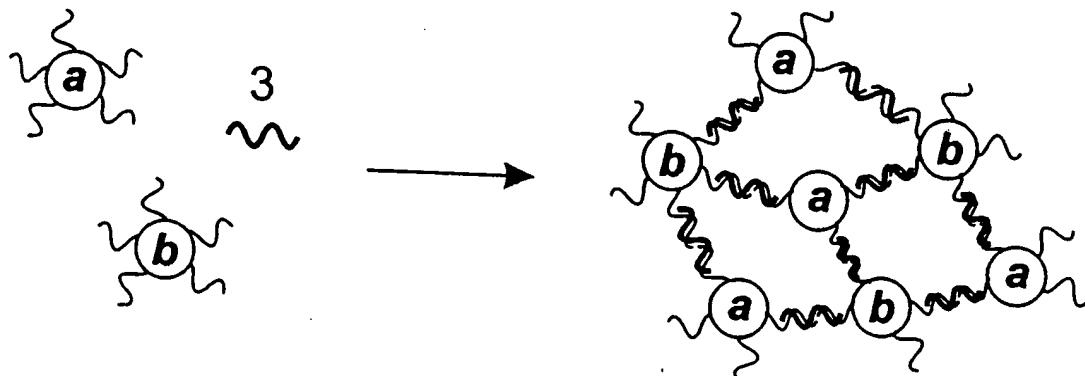


FIG.37B

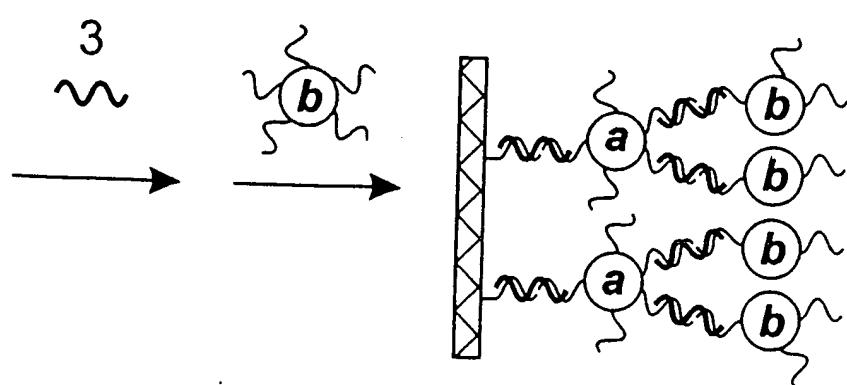
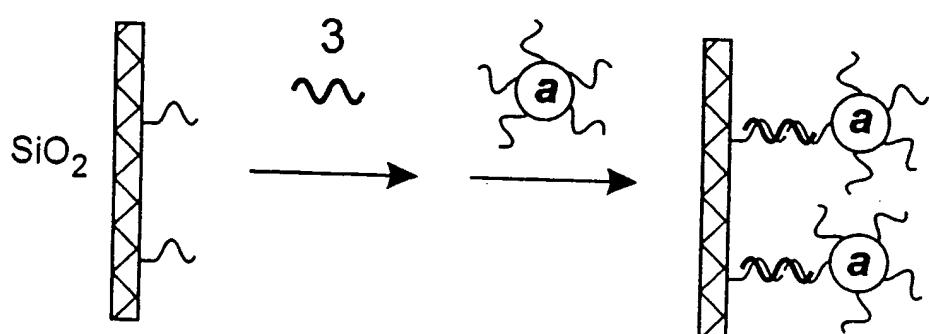


FIG. 38A

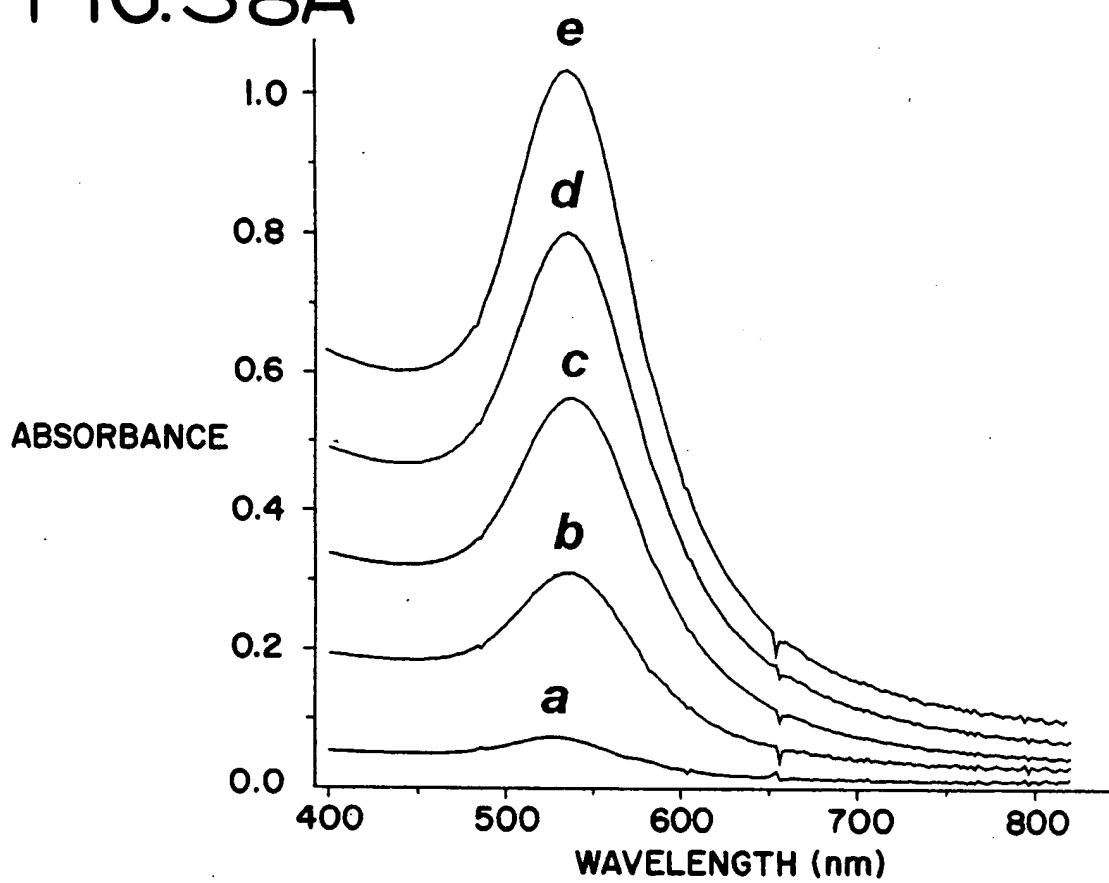


FIG. 38B

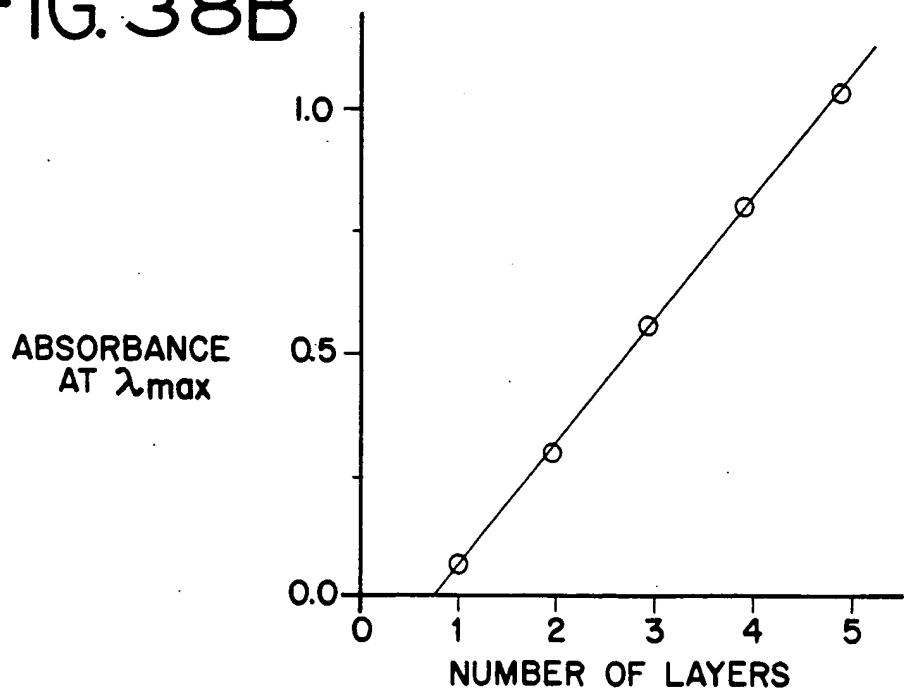


FIG. 39A

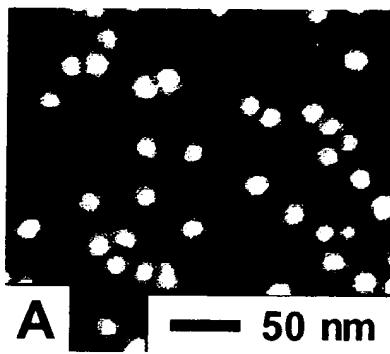


FIG. 39B

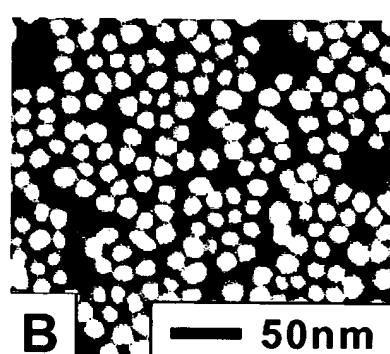


FIG.39C

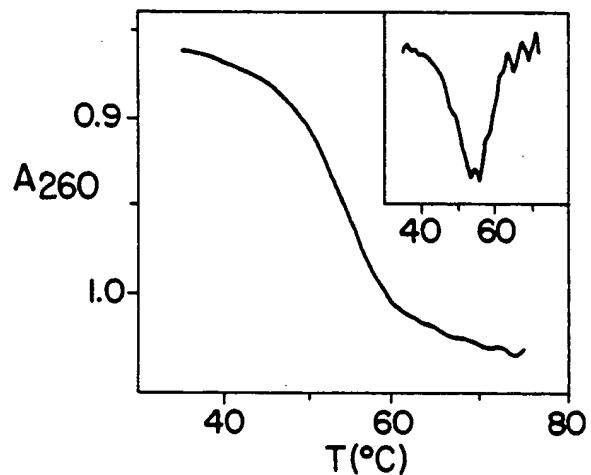


FIG.39D

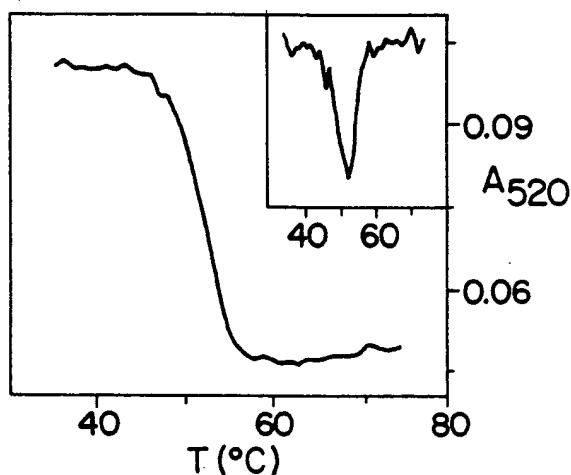


FIG.39E

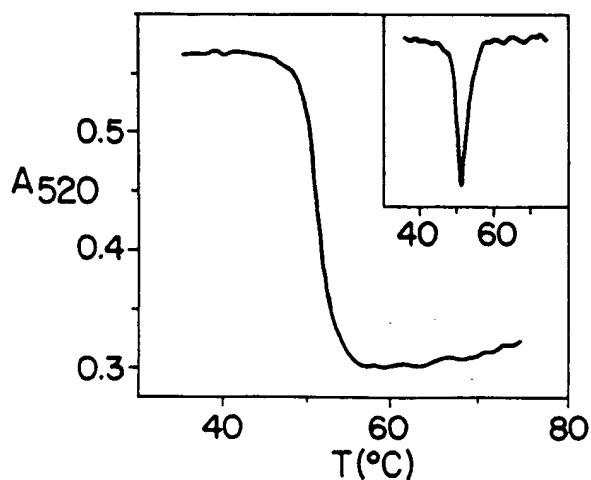


FIG.39F

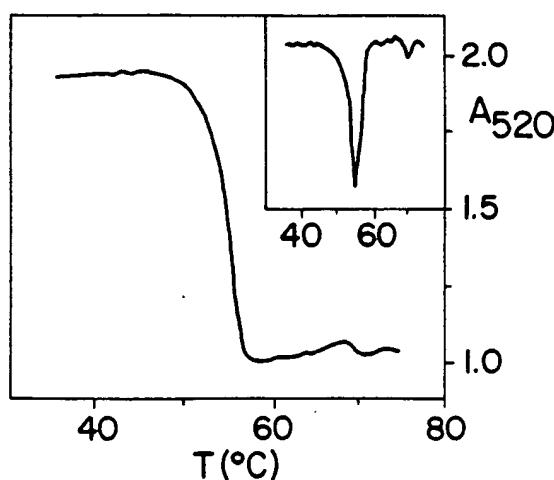


FIG. 40

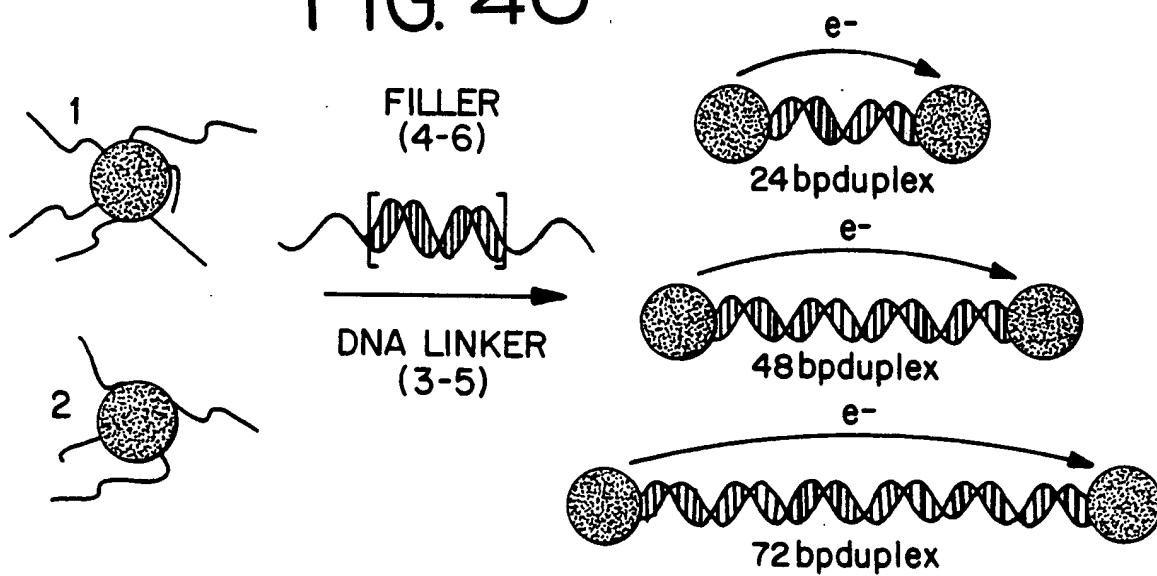


FIG. 41

